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SOME "MARKS": AN ADMINISTRATIVE PROBLEM

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When the microbe of testing and measuring (scientific of course) once finds lodgment in the mind of a superintendent he becomes a victim of its impelling and creative demands. There is no help for him but to proceed to go the limit or else quit the game. But we have a saying in the town in which the writer lives, attributed to an eminent statesman of Connecticut, that "the Lord hates a quitter." (Exact quotation censored.) We did not quit; hence this narrative.

This history of a small reform in marking or grading in our high school is a story of most innocent beginnings that finally ripened into a campaign that proved somewhat of a jolt to a few conservatives in this school in "the land of steady habits." In September, 1916, we employed for the first time an experienced teacher to do various wonderful things for us that we felt in a vague way needed to be done, particularly in the line of self-examination or auto-survey. In the mind of the writer one of the amusing features of this new employment was that he actually did not know what title to give his new teacher, but as a large part of the intended work was to acquaint our teachers with the use of the objective tests and standards, he suggested to the School Committee—

that is a New England phrase which means Board of Education out West—that we call her the supervisor of tests and measurements.

One of the first things the superintendent wanted to know was how quickly and completely the pupils going from the grammar grades were adjusting themselves to the new environment of the high school. The supervisor, Miss Catherine E. McCormick, took the grades, which for the balance of this article we shall call "marks," of the children in the 8A grades of June, 1916; that is, the final marks they received in the grammar schools. She then compared these with the marks of the identical children issued February 1, 1917, leaving out of account those who did not enter high school. This opened up quite a number of pregnant questions, suggestive of interesting and sometimes tantalizing problems. (All of this with much more is incorporated in her report to the superintendent which is being prepared for the printer at the present time.)

The most startling and challenging problem, however, was at once seen to be the whole problem of the system of marking in the high school. Our high school registers a little less than 900. We have 40 teachers grouped into the several conventional departments that are to be found in a high school that offers college preparatory courses, scientific and classical; general courses including shop-work, mechanical drawing, domestic arts, domestic science, etc., music courses, including a college preparatory music course; and a commercial department.

In passing it may be interesting to know that the average eighth-grade mark of these pupils was 82.3, while the average high-school mark was 78.9. The writer did not attach any undue importance to the revelations of these deadly averages. He is quite alive to the fallacies that underlie any presumed conclusions that are based upon averages. Nevertheless, we at once examined the marks given by each individual teacher in the high school and made graphs of them.

Our passing mark has been for the last three years 75. We noticed that of the 93 averages considered, 35, or just three-eighths of all, were marked 75, or, as we used to say in college, 35 received a "bald-headed pass"; 25 received 80; 13 received 85; and 9, above 85. Eight marks below pass were given.

OUR PROBLEM DISCOVERED

One who has made any study of grading will at once discover that something is wrong when three-eighths of a group barely pass, while only one-half and no more are rated as better than pass. Our problem was of course to take up with the teachers this problem, "What is wrong with the marking system?" We assumed, *a priori*, that our children were not inferior in general ability.

The statement and solution of such an important supervisory problem as this, so vital and intimate to the progress of nine hundred students, demanded direct and practical methods of attack. The job was to effect some remedy, and that quickly. We put aside the alluring temptation to make "a study" of the situation except as that might incidentally be necessary. We had no thought of overrefining our methods; we were not collecting and collating data to be used in a thesis or in a seminar of a school of education.

The educational statistician therefore will be disappointed if he expects any new contribution. None of our teachers assume to be specialists on the question of rating. We therefore tackled the question in a direct way, and the first thing we did was to hold general meetings at which were present the principal of the school and all his teachers, the supervisor of tests and measurements, and the superintendent. We held three meetings of about an hour and a half each.

WHAT WE MARK

The topic of the first meeting was "What We Mark." It was felt that despite the fact that there must inevitably be a great variability in teachers' marking due to variability in subject-content and variability in personal temperament, it was nevertheless advisable to agree in a general way upon what the fuss was all about. What does a teacher enter marks for anyway? What does he mark?

We had a stenotyped report of the discussions and on looking over this report I find that teachers marked "improvement," "ability," "serious purpose," "moral qualities," "interest in work," "accomplishment." The domestic science department marked

"conscientious work," "improvement and ability." The commercial department marked "accuracy, neatness, and promptness," which by the way are three slogan words very properly adorning the walls of the department. They also considered "honesty, courtesy, and zeal." The history department marked "endeavor and accomplishment." One teacher in the mathematics department offered "acquisition of knowledge."

In this almost appalling category of practically all that is good and moral, one would need to have the genius of a field marshal, or of a Beethoven, to reduce it to a harmony that would be workable and practical. Nevertheless we defied the fates and made the attempt. The key was already at hand in the custom that the graded schools had adopted a few years, ago, viz.: *to consider the ability of the child at the time the mark is recorded* without reference to any previous marks, except in so far as previous accomplishment must have a bearing upon present ability. We therefore adopted the following as the hypothetical answer to the question "What Do We Mark?"

Mark *present native ability and accomplishment*, in the consideration of which take account of:

1. Quantity of accomplishment
2. Quality of accomplishment
3. Improvement (but only if measured by objective scale or standard)
4. Evidence of personal, specific, and serious purpose
5. Evidence of initiative
6. Evidence of supplementing knowledge
7. Thinking—organization of ideas—"pointedness" and relevancy

ABYSSINIANS IN THE CORD-WOOD

In working out this tentative agreement upon what to mark, the superintendent kept steadily in mind several notional by-products—important incidentals that are much less likely to trickle into the machinery of high-school practice than into the more flexible grammar-school practice.

First and foremost it is necessary that teachers should forgive pupils their scholastic trespasses. Is the pupil able to proceed? to undertake the advance work? No matter what he was, or did, or did not do, the question is simply, "Can he?" not "Can *him*."

When one considers the almost ungradable studies of Snedden's beta list, or the small importance of the values of studies that Bagley lists as "conventional" or "preparatory"—the ignorance of which "brands a person as uneducated," or "which have value as bases for the acquisition of other facts and principles"—as compared with the "utilitarian," the "emotional," the "sentimental," and the "theoretical," one wonders why so many amiable, broad-minded, sympathetic teachers become so much inclined to be rigid and exacting in demanding their Shylockian portions of academic work. (Teachers under a spiritual age of thirty excepted and exempt from any imputation.)

Other very important standards of teaching have become almost predominant in the practice of the more progressive school systems. They are brought in by the newer teachers, but seem to be adopted all too slowly if not reluctantly, and in some cases unintelligently, by the older teachers. I refer to the teaching ideals and standards connoted by the phrases: establishing and evoking a specific purpose; motivation; supplementing knowledge, not only by direction of teachers' assignments, but by "getting after it"; systematic thinking.

To get these ideas fixed in the minds of our high-school teachers as important factors in marking was one of the purposes, though logically incidental, of the first meeting.

THE SCALE

We finally landed on the other side of that bunker only to find our lay in the tall grass of a discussion of scales. The kind of scale used—literal or percentile—really does not matter much. Nor does it really make any difference, except as to convenience as we shall see, whether 60 is the "pass mark" on a percentile basis, or 75. But what is of cardinal importance in any system is the determination of what "pass" should mean.

WHAT IS A "PASS MARK"?

What do we mean by "passing" a pupil? What "passes" him to the next class? What quality or quantity of ability or

accomplishment should we demand as a condition of "passing" a student?

Here are some of the opinions offered. I quote them just as they were recorded by our stenotypist reporter, because they reveal in some cases the somewhat static condition of mind that seems to hinder the response of experienced teachers to new ideas. And the conservatism is often in direct ratio to the value of the teacher.

Question: What is *your* idea of a "pass mark"? What conditions should govern in giving it?

Ans. 1: When the pupil has done what is required.

Ans. 2: When he is able to go on with the work.

Ans. 3: I often mark on the moral qualities entirely. I could not say that the pupil is always able to go on with the work. This is only in extreme cases.

Ans. 4: When a pupil has the main outline creditably well he should pass.

Ans. 5: A pupil, especially a commercial pupil, who has fulfilled the letter of the law should be allowed to pass.

Ans. 6: When we put down 75, he is doing all we can reasonably expect.

Ans. 7: Is not progress (improvement?) the important thing?

Ans. 8: When the student has done 75 per cent of the amount required.

Answers 6 and 8 did not seem to fit the case; the others implicitly contained the norm we were seeking. Our conference's work then became a work of synthesis—to try to induce a working definition of "pass mark."

In passing, it is interesting to note the point of view of the last answer; it is so characteristic and general among older teachers of the subjects taught by the one who offered it. His department may almost be guessed. Notice his confusion of ability with work; his emphasis upon quantity. He discounts "present ability" by a horse-power-hour argument. It is the application of the factory piecework time-card to the estimate of the mental and character progress of a human being. It is quite at variance with Answer 3.

Long before this, this question must have occurred to you: "How can a standard definition of 75 be devised to be applied to subjects so diverse in content and educational value as literature and bookkeeping? as history and stenography?"

These questions very naturally were brought up by the different departments at the conference. Discussion seemed to show us, however, that if we could agree upon what we are marking—

present ability and accomplishment, in the consideration of which a teacher takes account of the various factors named—we could also agree upon what 75 or the "pass mark" should mean in each department. We agreed upon the following tentative definition of "pass mark": *A mark standing for the teacher's judgment that the pupil has done creditably enough both in amount and quality to progress or to take work in advance, but no better.* An application of this to a few subjects may show how the definition might hold.

Bookkeeping.—This work shall be absolutely correct in every case. The amount required should be no more than a slow pupil can do accurately; brighter pupils might take more work. The judgment is therefore a quantitative one; in other words, has the pupil done the amount of work demanded in bookkeeping, the theory being that every student should be held to a given task until it is correct. This would apply also to commercial arithmetic, and in most cases to mathematics. Other analogous subjects will occur to one.

Stenography, typewriting, etc.—A slight modification of the foregoing principle operates in these subjects for the reason that proficiency largely depends upon the ability to spell, punctuate, and use correct English. With stenographers, it very largely depends upon the possession of a reasonably large cognitive vocabulary. However, 75 should be given in these subjects when a fixed amount of dictation can be accomplished in a fixed or standard period of time and the result contain not more than an agreed standard of permissible errors.

Another category of subjects, corresponding to Dr. Snedden's beta list, must be subjected to a different principle. The teacher's judgment here is much more largely subjective. Frequent departmental meetings with the principal of the school are very necessary if there is to be any approximation of a standard judgment as to whether a pupil has "done creditably enough both in amount and quality" to be advanced.

100 PER CENT

Before considering the steps of the scale, we next considered the higher end, 100 per cent, the pass mark, or 75 per cent, being

the lower end. We came to the conclusion that, as above stated, it made no difference what the "pass mark" was called provided some agreement as to its meaning could be arrived at.

Some years ago the pass mark in the Stamford High School was 60 per cent. It always seemed to the writer that the argument that a higher pass mark would induce a higher grade of work by the pupils was fallacious. It seems to have the flavor of fiat money as a medium for the payment of debts, but since the change was made, it did not seem worth while to revert to the old system. The problem, therefore, became the determination of the steps between the pass mark and the theoretical 100 per cent.

The next topic of our discussion therefore was the meaning of the 100 per cent. The discussion on this was lively. The consideration of zero was incidental to it. We came to the conclusion that since we were marking "present ability and accomplishment," and that since any student in a high-school class must have a considerable measure of ability else he wouldn't be there, and must have accomplished in the past considerable work else he wouldn't be there, a zero was an impossible mark. "What, then," I can hear one ask, "would you mark a student who doesn't do anything in a class in a given time?" Our answer is, "We should mark that a 'D,' which means deficient," the consideration of which will be taken up presently. To make this section of the story short, we finally decided upon the following tentative definition of 100 per cent: *The mark given when in the opinion of the teacher a definite assignment has been perfectly performed.*

COMMENTS

1. A term's definite assignment implies all—the sum total—of the periodic assignments. The 100 per cent mark is therefore very rarely attainable for a term, but might frequently be recorded for a given daily assignment.

2. This mark when applied to a periodic assignment (e.g., daily recitation) shall not be impaired by any fault (e.g., in English) that should be charged to the account of any other subject, unless such extraneous fault casts a cloud of doubt upon the perfection of the work in the subject under consideration.

Something was said above in regard to a "D" mark. If a student comes to class truly empty or unprepared, he is marked "D" and not zero. The pupil receiving such a mark is in exactly the same status as one who has never attempted the definite assignments, and "D" or deficiency therefore stands for a deferred judgment of the teacher. Next day or subsequently the student may make up this work or may give unmistakable evidence that the blank for which he was marked "D" has been filled. The teacher must then exercise his judgment in marking him, and such judgment when finally made may prove to be a pass mark or a failure mark in place of the "D." Upon the records in the office, "D" of course must have all the force and significance of a failure until another record is substituted for it.

(We also mark "R" in some cases, which stands for refused or rejected, in the case of written work that the teacher refuses to consider. This is occasionally used upon slovenly or carelessly arranged papers.)

STEPS OF THE SCALE

Following is a digest of the next topic of discussion taken up:

Before we adopt a scale and its steps between "pass" and the theoretical "best" that we call 100, let me present a few conclusions that have been generally agreed upon by students of this matter of marking. We may well accept them at least as working hypotheses. If you question them, please at least consider them as hypotheses—statements to be proved or disproved by actual experiment, and not to be discarded without trial.

1. Marking should be done either by relative positing, or by the employment of an exact, scientifically prepared standard scale.

We will call the first the grouping method and the second the yard-stick method.

2. When neither method is used, and the mark expresses the teacher's absolute judgment, there will be wide and considerable variability in the marks of different teachers.

3. An examination of this variability in teachers' marking has led most authorities to the conclusion that there cannot be more than four groups of quality—four "steps"—above the pass mark. (A few students admit five.)

In regard to the variability of marks: If each of you should mark a set of papers on our present percentile basis, we would probably find a variation of from 5 to 15 per cent, and we need not feel surprised to find a mean

variation of at least 8 per cent. If you doubt this, try it before you finally deny the statement.¹

If we should assume a mean variation of 8 per cent, our "pass mark" should be fixed at 68, so that a mark of 72 would be the mean of marks between 68 and 76, a range of 8 per cent; a mark of 80 representing the range between 76 and 84; 88 for the range between 84 and 92; and 96 the mean mark for the range between 92 and 100.

For if one teacher marks a paper 76 and another marks the same work 84, these two representing the probable extremes of variation—8 per cent—while the other judgments assign marks somewhere between the two, what mark should be recorded in fairness to the student? Why not 80, the mean?

CHECK AND PROOF

Now suppose you take another set of papers, preferably by the same students in the same subject. Assort them into five groups: failures, poor, medium, good, and excellent. You probably would find yourselves in remarkable agreement. Your disagreements would probably hinge upon borderline cases; and if they did, we would have further substantiation of the statement that teachers' marks vary considerably.

TABLE I

Description of Steps	Pass Mark					Assumed Best Possible
	Failure	Poor or Inferior	Fair or Medium	Good or Superior	Excellent	
Literal Symbols	X or D or R	P	F or M	G	E	
Numerical Equivalents on Basis of 60 Pass	60	70	80	90	100	Steps = 10
	Below 60	65	75	85	95	
Same on Basis of 75 Pass	75	81½	87½	93½	100	Steps = 6½
	Below 75	78	84	91	97	

If you should assort them into six or more groups, the amount of disagreements (variations of judgments) would increase; and into four groups, as many colleges grade students, your differences of judgment would practically disappear.

Now it happens that a division of four groups above a pass mark of 60 gives us steps of 10 per cent; while four groups above a 75 pass mark gives us steps of 6½ per cent. The former is preferable; either is practical; neither is theoretically correct on an assumption of an 8 per cent mean variability of

¹ *English Journal*, November, 1916, gives striking illustration of variability in the marking of compositions.

teachers' judgments. But we have no final sanction as to how much variability actually would be found, so why worry?

The diagram on p. 706 was then displayed upon the blackboard. The advantage of fixing 60 as pass will readily be noted.

The natural steps of 10 are much more convenient to handle; but our school has become used to 75, and it did not seem wise to make the change. The decision was as follows:

- a) In term marks or for office and home records use:

Failure	Inferior	Medium	Superior	Excellent
X or D Below 75	P 78	F 84	G 91	E 97

- b) In personal record book, use any preferred scale, but for purposes of translating to office reports, use:

$93\frac{1}{2}$ to 100 = E or 97

$87\frac{1}{2}$ to $93\frac{1}{2}$ = G or 91

$81\frac{1}{2}$ to $87\frac{1}{2}$ = F or 84

75 to $81\frac{1}{2}$ = P or 78

Below 75 = X or fail

Marks should indicate relative rank.

Some suggestions for marking:

- a) Until teachers become familiar with the steps and how to use the scale, frequent department meetings should be held, to assort papers in five groups according to the scale marks. As many judgments as possible should pass upon the papers. Five papers, representing respectively the averages of the five groups as determined by the average of the teachers' judgments, should be set aside to serve as a tentative objective standard scale until a better can be substituted.

- b) Exchange of marks and papers with other schools and departments should be effected.

DISTRIBUTION OF ABILITIES

At this point we considered the suggested evidence that began the campaign—the distribution of marks turned in by the high-school teachers.

There was a preponderance of marks just above pass marks that under any system would group as poor. We did not expect to plot a "peakless" curve; neither did we expect to find so high a

"peak" below medium. Twenty-five per cent—875 out of 3,503—were grouped "poor," and nearly one-sixth "failed."

The heavy lines of the figure give the plot we found for 3,503 names; the dotted lines show a theoretically normal distribution on the basis of 12 fail, 20 inferior, 40 fair, 20 superior, and 8 excellent in a group of 100 marks.

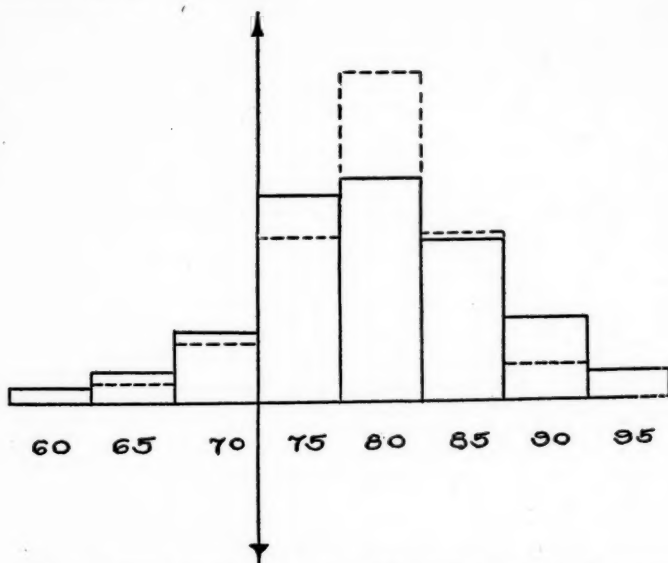


FIG. 1.—Heavy lines for 3,503 marks. High school, dotted lines, theoretical—(Hall-Finkelstein Graph). Reduced to 100-marks basis.

The most striking revelation, however, and one that could be expected where such various opinions of "What We Mark" are found, was the contrasts shown in the graphs of marks of individual teachers. We reproduce two, Graph No. 2, of a mathematics teacher's 167 marks, and Graph No. 3, of a Latin teacher's 92 marks.

GRAPHS AS TEXTS

The graphs of all the teachers were plotted. The supervisor of tests and measurements examined them with many of the

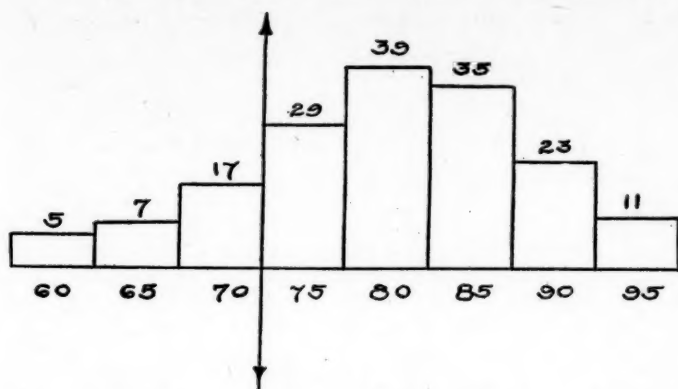


FIG. 2.—Mathematics. An excellent graph. Healthy distribution, but unusual

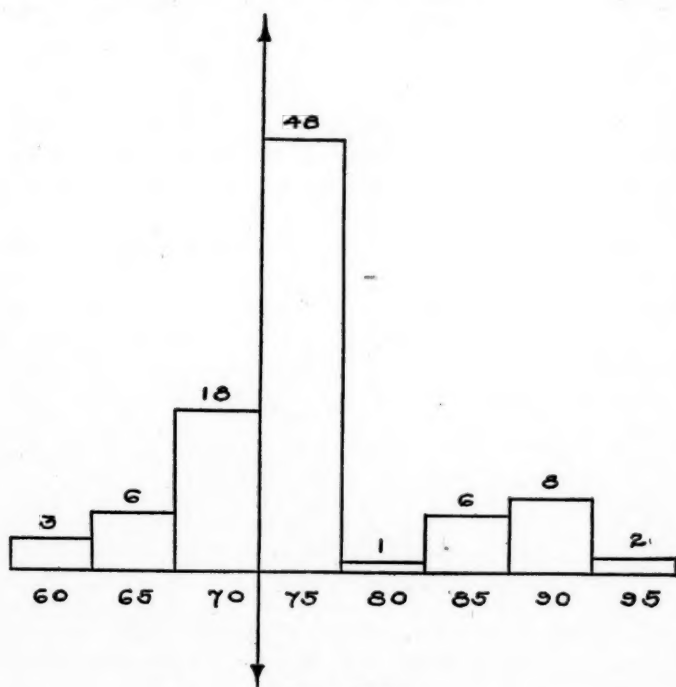


FIG. 3.—Latin

teachers, and several conferences were held. The campaign followed true political form—it became personal, a “house to house canvass” near its end.

At the end of the term, January, 1917, the marks the same teachers recorded for the same first-year students were again analyzed. The comparisons are shown in Table II:

TABLE II

Description of steps.....	X	P	F	G	E
Theoretical distribution.....	12	20	40	20	8
December, 1916, distribution.....	16	50	20	10.5	3.5
January 26, 1917, distribution.....	8.5	33	38	17	3.5
Preparatory course, January, 1917, distribution.....	12	32	31.5	19.5	5
Commercial course, January, 1917, distribution.....	3	33	43	20	1
General course, January, 1917, dis- tribution.....	9	34	42	10	4

Some improvement will be noticed. One-third “poor,” however, was still unhealthily large. Although all three departments show about the same percentage of “poor”—32, 33, and 34 per cent respectively—it will be noticed that in the case of the college preparatory students the percentage of poor is higher than that of medium. Why? What was the trouble?

We examined the graphs of all the sections of the IB preparatory students by subjects and found that the chief cause of the disturbance was in Latin. The percentages of distribution were: X 16.6; P 32.4; F 29.6; G 21.2; E 0.

One of the graphs of the Latin marks is shown above. Two others follow; Graph No. 4 of 92 marks and Graph No. 5 of 132.

This condition as to the marking of Latin is probably more or less general. If it is, does it not point to the need of study by the specialists? I am led to believe that the condition of the case in our high school is not peculiar but typical. Are the demands of Latin too exacting? Are the requirements of Latin teachers, generally speaking, too rigid? Or is it because of inadequate preparation in the grades? Can it be more vitally motivated? With no intention to pun, what is the case of Latin?

IS IT WORTH THE CANDLE?

The writer will not presume to reply. In justice to a fair answer, however, he must state that stress of work of another

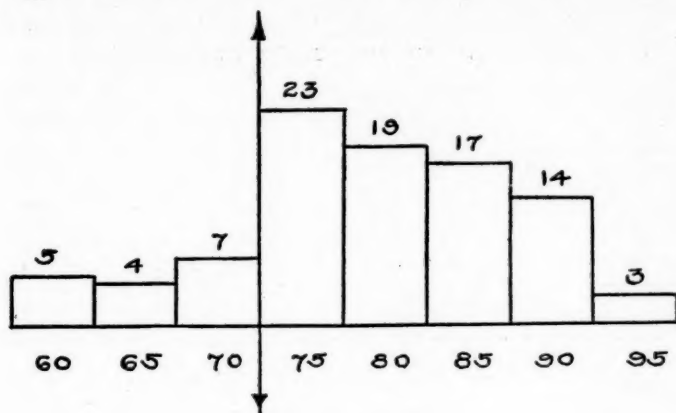


FIG. 4.—Latin

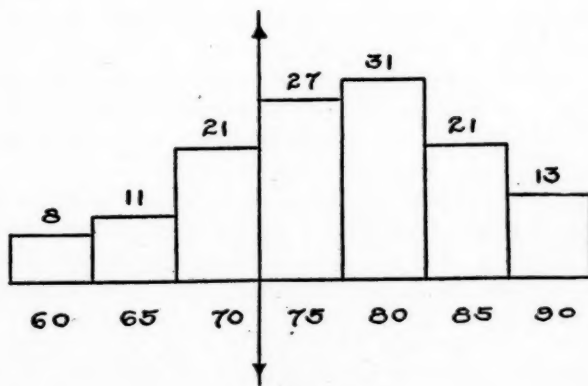


FIG. 5.—Latin

nature precluded that very essential part of supervision, active "follow-up," after February 1.

Nevertheless, Table III appears in the annual report (October 1) of the superintendent:

TABLE III
PERCENTAGE OF FAILURES BASED UPON ENROLMENT

SUBJECT	FIRST TERM				SECOND TERM			
	I	II	III	IV	I	II	III	IV
English.....	9.8	10.9	12.0	9.1	9.0	8.5	13.4	10.0
- Latin.....	15.8	14.5	.....	22.0	7.2	9.4	12.1	3.3
- Algebra.....	23.2	.....	7.6	8.3	10.3	.....	.....	.....
Trigonometry.....	.....	.....	.....	.....	.....	.....	.....	10.0
Geometry.....	.....	22.5	.....	.....	.....	23.6	.....	.....
History.....	6.7	.....	15.3	14.5	14.2	.....	2.8	1.2
German.....	.....	23.6	18.5	6.2	.....	38.4	15.6	5.4
French.....	.....	20.4	24.6	3.1	.....	19.0	22.0	6.7
Spanish.....	.....	42.8	.....	.....	.....	28.0	.....	.....
Chemistry.....	.....	.....	12.7	.....	.....	.....	10.5	.....
Physics.....	.....	.....	.....	2.3	.....	.....	.....	3.6
Bookkeeping.....	8.4	8.1	.....	.....	12.1	15.0	.....	.....
Commercial arithmetic.....	.....	12.5	.....	.....	.....	7.3	.....	.....
Commercial geography.....	.....	15.0	.....	.....	.....	11.1	.....	.....
Commercial law.....	.....	.....	18.5	.....	.....	.....	6.8	.....
Stenography.....	.....	.....	14.2	21.0	.....	.....	23.8	5.4

(In other subjects, no proportion of failure exceeded one-eighth.)

The general drop in percentage of failures, which amounted to more than a tendency, was of course gratifying. Though this report covered all subjects and all four years, is it taking too much for granted to suppose that our investigation of first-year marks had much to do with this result? The first term shows 17 cases of over one-eighth failed; the second term only 10. In 21 cases out of the 30, the percentage of failure was reduced.

It should go without saying that no direction, order, mandate, or suggestion was made that a teacher *must* keep her failures below $12\frac{1}{2}$ per cent. All we asked was that our teachers give intelligent attention to the matter of marking and of causes of failure.

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[NOTE.—To make valid comparisons of graphs, care must be taken to reduce them to a common denominator.]

Assuming the dotted graph (No. 1 above, p. 708) as a base, we find the highest peak representing 40 marks of the 100. It was made, in the original drawing, 2 inches high.

For the black line graph of 3,503 marks, we use the proportion:

$$\frac{3,503}{100} = \frac{X}{40}, \quad X = 1,401$$

A peak of 2 inches therefore would represent 1,401 marks, and the various "peaks" would be drawn proportionately.

SOCIALIZING THE STUDY OF HISTORY

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A most encouraging sign of better teaching methods is the ever-increasing demand that instruction be vitalized—that subject-matter consist only of what can actually function in the child's life, and that the method of presentation make the child appreciate the close and vital connection between his studies and real life. In general, this demand is being met by socializing the subject-matter and adapting it to the child's interests, and by the "problem" type of presentation. Thus, with reference to the organization of the history course, the Committee on Social Studies of the Commission on the Reorganization of Secondary Education of the National Education Association recommends in its report:

1. The adoption to the fullest extent possible of a "topical" method, or a "problem" method, as opposed to a method based on chronological sequence alone.

2. The selection of topics or problems for study with reference to: (a) the pupil's own immediate interest; (b) general social significance.¹

The history-methods course developed during the past two years at the Nevada State Normal School is based upon these principles. A presentation of the general method we have followed is here given to suggest one method of applying these principles and to indicate what we are doing toward improving the situation that the Committee mentions, that "probably the greatest obstacle to the vitalization of the social studies is the lack of preparation on the part of teachers . . . in part a lack of training in the facts and laws of social life as formulated in history . . . particularly

¹"Report of the Committee on Social Studies of the Commission on the Reorganization of Secondary Education of the National Education Association," *Bureau of Education Bulletin*, 1916, No. 28, p. 37.

true in the elementary schools and in rural schools."¹ It is the hope that our history-methods course will result in giving the state's elementary teachers a thorough acquaintance with the most important social conditions today and in teaching them the need and method of socializing the history material.

The fundamental principle that has determined the general content of the course and the methods to be advocated is based upon the aim of education as adjustment to the social environment, more commonly stated as social efficiency. With the emphasis upon efficiency in a *present* world, the chronological method as ordinarily handled was abandoned from the first as failing in any real way to make the child's environment more intelligible to him. For, if history is to be of value as an educational means to adjustment by explaining and interpreting the present, the starting-point certainly ought to be a presentation of the thing to be explained and not the explanation as in the chronological method; the problem ought to precede the solution. What seemed to be a more rational and effective method was therefore adopted: first, a thorough consideration of that element of the environment which our historical study is to interpret, as that element exists today; and then the history of that element, or the story of how it has come to be. Since by this plan only those historical events are studied which contribute to the interpretation of the element under discussion, the method is topical. The topics possible will be suggested by the elements into which we may analyze our environment. One such analysis is presented at the close of this article.

This social environment, as we have used the term, is considered to consist no less of principles, theories, and laws than it does of concrete institutions and organizations, or specific social activities and achievements. Pre-eminently it must be emphasized as the product of a social group drawn together by common aims and organized for the accomplishment of specific purposes. Our analysis of this environment emphasizes three important elements as constituting much of the world about us: the element occasioned by society's effort to protect itself; the element produced by man's natural desire to prosper and to make his life more enjoyable; and

¹ *Ibid.*, p. 58.

the element represented by society's organization or government for accomplishing its purposes. The policeman or the soldier, the fire department, the work of the street-cleaning department, quarantine regulations, the labor permit for the boy of fourteen, compulsory school attendance—all of these are manifestations of society's effort to protect itself; with all of them the child comes early and constantly in contact. So, too, painting, music, literature, parks and playgrounds, all the occupations of man, and all his philanthropic and religious expressions are evidences of our desire to make life more worth the living. And election days and voting, political parties and political propaganda, public officers and public buildings, indicate the existence of society's organization or government. These are large and comprehensive aspects of our environment; they touch every boy and girl intimately and continuously and are, it is felt, of real interest to the child. They furnish, consequently, excellent topics for study.

Since any of these aspects may become the starting-point for our historical consideration, it is evident that topics for discussion will deal, not only with the political events in the nation's development, but with all matters touching the people's needs and desires: economic and industrial, religious, aesthetic, etc. In addition, then, to the topics which are concerned with the acts of the established government and which constitute a large part of many history texts, such questions may be taken up as, for example: crime and its treatment, disease and medical progress, agricultural methods and inventions, American art, the development of the modern newspaper, and the conveniences of the modern home.

To illustrate the method used, we may consider the manufacturing industry—a very large and important factor in our present-day life. As indicated above, a study is first made of the industry as it exists today. This involves any number of economic and social problems, though certainly among the questions to be considered are: the importance and extent of manufacturing in the United States today, the factory system with its division of labor and standardized product, trusts and the large corporate control of industry, labor unions, and the relation of manufactures to city life and city-life problems. The government's relation to manu-

facturing through the tariff, the work of the Department of Labor, the most important laws concerning the hours of labor, factory conditions, etc., and the many ways in which manufactures are being regulated through Congressional control of interstate commerce may well be studied in the same connection. After gaining a fairly thorough conception of that phase of our present environment which is determined by manufacturing, we turn for the purpose of comparison to a previous period in history characterized by a wholly different system of manufacturing. Such a period in American history is the Colonial. Here we have a population almost wholly agricultural, with manufacturing but one phase of the farmer's life; we note the absence of the factory and power-driven machinery, of the corporation and the capitalist, of the labor union, and of the modern type of city.

A great value of such a comparison is to bring home forcibly to the student the fact that these various elements of his environment, which he has always taken as a matter of course, are, after all, unusual and noteworthy. It is to be hoped, too, that now the problem will arise naturally of asking, since the present differs so radically from the past, how this great change has been brought about. The history study may now follow as an answer to a problem consciously felt.

This history study is chronological. Beginning with the Colonial days, we take up the various events which mark the development of manufacturing industry: the invention of the spinning and weaving machinery (which, it must be pointed out, is not an American but a European achievement), its introduction into America, the effect of the War of 1812 upon manufacture in the United States, the growth of factories with their long hours of labor and unhealthful conditions in the mill towns of New England, the invention of the steam engine, the protective tariff, the rise of labor organizations, the growth of the trusts, the increase and change of character of immigration after 1880 and the settlement of foreigners in the big cities, the Sherman anti-trust law, the interstate-commerce law, the creation of the Department of Commerce and Labor, and the enactment of laws and important court decisions affecting labor. Other related topics may be included. Extensive

treatment of all those mentioned may not be desirable; some may be omitted altogether, especially if they can be included under other topics.

Beginning as we do with the present world, our topics will naturally be selected for their social significance. Whether, in addition, they will appeal to the pupils' own immediate interests, will, of course, depend upon the pupils and the method of approach. There are, it is true, in any one of the aspects of the environment which we have indicated, many things which are technical or specialized and beyond the interests of children. But, if we devote our study to the larger elements only, we should have topics that do interest them because they are such a common and comprehensive part of the child's life.

Besides meeting the general principles recommended by the Committee on Social Studies, the method described has two advantages worth mentioning. In the first place, we have a criterion for judging the relative value of the large number of events discussed in the history text and the amount of attention any event may deserve. In the light of the large topic selected for treatment, and in answer to the problem of how our present situation has grown out of a past, we shall decide upon those historical events as most important which have had the most direct influence upon the present. The importance that is to be attached to the treason of Aaron Burr, to the Whiskey Rebellion, or to the Virginia Charter of 1619, will depend upon the extent to which some phase of our life now is determined by the event in question.

Another value of this method lies in the opportunity offered for emphasizing the price that past society has paid for the progress we enjoy. The better labor conditions of today, the gradual elimination of bad tenements and sweatshops, the wonderful mechanical inventions for simplifying toil, all the privileges and comforts of our modern life, have been bought by the devotion and sacrifices of individuals and organizations, in spite of hardship, persecution, and the constant opposition of sinister forces. A realization that progress is always made in just this way and that it is our obligation to continue this progress for the future ought to be a most potent factor in making history function for better citizenship.

The following outline presents in some detail the analysis we have made for suggesting the topics that might prove satisfactory for historical treatment by the method described. Its value lies probably more in its suggestiveness than in its completeness.

A. The element of our environment arising from society's effort to protect itself.

I. Protection against foreign aggression.

1. By peaceful representation: ambassadors and treaties.
2. By promulgating specific foreign policies and doctrines.
3. By the maintenance of an army, navy, militia, etc.

II. Protection against dangerous persons.

1. Criminals and delinquents through the police, courts, and prisons.
2. The insane and feeble-minded by confinement in special institutions.

III. Protection against disease and physical degeneration.

1. Through health officers, quarantine regulations, sewage and garbage disposal, street-cleaning departments, provisions for medical schools, control of medical practice, provision for pure water and food supply, playgrounds, etc.
2. In the occupations, through laws regulating the hours of labor, especially for women and children, providing healthful conditions of work, requiring safety appliances, etc.

IV. Protection against ignorance.

1. Through a public-school system and compulsory education.
2. Through libraries and museums.

B. The element of our environment produced by the desire for personal welfare and for making life more enjoyable.

I. The element growing out of the occupations of the people.

1. Agriculture.

- a) Extent and importance of the industry; present methods of farming; problems of rural life.
- b) The federal government and agriculture.
 - (1) Attempts of the farming class to get aid through political influence.
 - (2) The Department of Agriculture.
 - (3) The government's land policy.
 - (a) The Homestead law.
 - (b) The reclamation policy.
 - (4) Aid for agricultural education.
 - (a) Morrill Land-Grant act.
 - (b) Smith-Lever act.
 - (5) The Federal Farm-Loan act.

2. Commerce and trade.

a) Nature and importance of the industry; complex system by which trade is carried on.

(1) Means and methods of transportation.

(2) Banks and the system of exchange.

b) The federal government and commerce.

(1) Government aid for transportation.

(a) Appropriations for better roads.

(b) Land-grants to railroads.

(c) Improvement of waterways and building of canals.

(2) Government and currency.

(a) Coinage and money legislation.

(b) Banks and banking acts.

(3) Control of interstate commerce.

(a) Interstate-Commerce law.

(4) Consuls and consular reports.

(5) Department of Commerce.

3. Manufacturing.

a) The factory system of manufacture.

(1) Large corporation control of industry.

(2) Factory life and problems.

(3) Labor unions.

(4) Effect on city development and city problems.

b) The government and manufacturing.

(1) The protective tariff.

(2) Control of manufacturing through control of interstate commerce.

(3) Department of Labor.

4. Other important occupations: mining, lumbering, fishing, grazing.

II. The element occasioned by the religious nature of people.

1. Religious institutions.

a) Churches.

b) Y.M.C.A. and Y.W.C.A.

2. Philanthropic and social-service enterprises.

a) Settlement work.

b) Red Cross.

c) Hospitals and dispensaries.

3. Important religious principles.

a) Separation of church and state.

b) Freedom of worship.

4. Philanthropic provisions by organized society.

a) Poor farms, orphan homes, etc.

- III. The element arising from the people's desire for pleasure, enjoyment, and comfort.
 - 1. Fine arts: painting, music, sculpture, architecture.
 - 2. Literature and newspapers.
 - a) Collection and dissemination of news.
 - b) Printing and bookbinding.
 - 3. Conveniences and comforts of home life.
 - a) Home furnishings and adornments.
 - b) Appliances for heating and lighting.
 - 4. Travel.
 - 5. Organized society and the people's welfare.
 - a) Parks and playgrounds.
 - b) Libraries and museums.
 - c) The postal system.
- C. The element determined by society's organization (government) for accomplishing its desires.
 - I. The national organization: a federal union.
 - 1. The individual states: a government within a government.
 - a) Power of the states v. that of the Union.
 - 2. The Union.
 - a) Administrative and executive departments.
 - b) Legislative department.
 - c) Judicial department.
 - II. The great political principle on which the organization is founded: democracy—government of, by, for, the people.
 - 1. The right of suffrage.
 - 2. All officers of the government responsible to the people.
 - III. Political parties and party government.

HOUSEHOLD-ARTS ARITHMETIC

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Unlike many courses in mathematics, the course in household-arts arithmetic which the writers have been teaching in the Plainfield high school makes no pretension of considering arithmetic an end in itself. No attempt has been made to include all the arithmetical principles and processes that have received the sanction of custom. The problems have not been chosen primarily because they served to illustrate some phase of arithmetic. The material has not been arranged with reference to the mathematical order of topics. Yet the course is distinctly a course in arithmetic, not in household arts; it involves the use of those principles and processes which are usually considered important, and the topics are arranged in logical order. More than this, the course is based upon principles which the writers believe to be in harmony with modern educational ideals.

In the first place, the course has been designed to meet the needs of a particular group, namely, girls from twelve to sixteen years old in the junior high school, the daughters of wage-earning and small-salaried men in urban communities. These families belong economically to the middle class. They are above the level of a struggle for mere existence; they are below the level of luxury and idleness. In these families, although there may occasionally be servants, the daughters are expected to participate in household duties. The mothers may have sewing machines; the homes may be equipped with gas and electricity; carpets or rugs cover the floors; curtains hang at the windows; there may even be a vacuum cleaner to lighten the burden of housecleaning. Yet the pressure of necessity is so sharp that, as a rule, every

dollar must be used to its utmost if the social efficiency of the family is to be maintained. Some girls will leave school at the close of the compulsory period, not always because of dire necessity, but in order to lighten the family burden.

For this group of girls an intelligent understanding of the economic aspect of homemaking is a matter of immediate concern. They are having first-hand experience with one of the most important social problems, and they know that sacrifices have to be made and economies have to be practiced in order to keep the children clothed, fed, and in school. This fund of experience can be made an educational asset if it can be drawn upon in a way that is adapted to the interests and capacities of these young girls. Actual homemaking is at least several years ahead. For that reason this is not the time to give them a vocational course in the sense of specific training for assuming the responsibilities of managing the home, but it is a suitable time to broaden their general education. The problems of the home furnish a means of achieving this result. The course may be said to have a threefold aim:

1. To enable the girls to understand and appreciate the economic problems in their own homes.
2. To make them skilful in the computations and methods of reasoning involved in everyday affairs, so that arithmetic may become a tool in effective living.
3. To make them able and apt to see the controlling number relations in practical situations.

In order to achieve these aims, the first question that arises concerns the organization of the material. The traditional mathematics course has usually been organized with reference to the mathematical principles involved. Problems were selected to illustrate such principles as were considered important, with little or no reference to the value of the problems themselves or their relation to the lives of the pupils. Instead of following the traditional method, this course has been organized on the assumption that the best way to secure a working knowledge of arithmetic is to follow the order determined by the content of the problems. Accordingly, problems that have to do with sewing are grouped together, whether they involve fractions, or percentage, or

decimals. The problems selected are those that naturally find their place in the upkeep and maintenance of the kind of homes that have been described, problems in reading gas meters, in marketing, budget-making, planning meals, etc. Corresponding to the five divisions in the family budget—food, shelter, clothing, operation, and advancement, or higher life—there might be five main divisions in the course, preceded by an introductory section devoted to the study of the principles of budget-making and the keeping of accounts.

The selection of problems to be included in each section has been made in accordance with the following criteria:

1. The subject-matter must represent a real problem within the immediate experience of the girl.
2. The arithmetical solution must also be the practical solution, i.e., the solution used in everyday life.
3. The problem must be of relatively frequent occurrence, of relatively permanent significance, and of relatively wide or general applicability.
4. The technical difficulties or the complexity or the sociological significance of the subject-matter must not be so great as to overshadow the arithmetic.

A brief analysis will serve to show how these criteria have operated in determining the selection of the problems and the scope of the course.

In the first or introductory section are included problems in budget-making and the keeping of accounts. Standard budgets stated both in percentage and in dollars are analyzed and used as guides in the application of budget-making to practical situations. The girls make budgets from various kinds of data, such as price-lists, receipts, and accounts. In this way they learn the practical value of records of expenditures, and they are taught to keep, not merely the usual simple cash account which is nothing more than a record of money spent, but also a distributed account which can be used as a guide in budget-making and as a check upon undue expenditure in any division of the budget.

No attempt has been made to teach girls how to make out checks, nor how to keep bank accounts, nor how to keep "double-

entry" accounts of any kind. Important as these problems are, they are not within the immediate experience of twelve- to sixteen-year-old girls, and they must be taken care of elsewhere in the curriculum.

After the economic basis of the course has thus been laid in the study of the budget, the other topics may be taken up in any order that commends itself to the teacher. She may wish to adapt the order of topics to the special interests of the girls, or to the order of topics in some other department. A satisfactory arrangement might be to study first the topics that relate primarily to the home itself, and then those that are concerned with the needs of the persons within the home.

According to this plan, the section on shelter would follow budget-making. The problems which, according to the criteria, may be included in this section involve the upkeep, but not the actual construction, of the house. They include taking measurements for repairs, drawing to scale, reading builders' plans, making estimates for such repairs as laying floors, painting, and papering. In all these problems the actual methods of practical builders are used, not with the purpose of teaching the girls to be contractors, but in order that they may understand how such estimates are made and be able to judge the value of repair work.

It might seem that other problems should be included here, but all problems that involve complexities of technique peculiar to the building trade are omitted, both because they are outside the actual experience of the girls and because they offer too many difficulties in relation to their value.

The next topic, operation, follows naturally after shelter because the problems are concerned with the home itself. There are problems in estimating the cost of mattings and linoleum, in finding the relative cost of gas and electric appliances, such as irons, vacuum cleaners, and the comparative cost per candle-power of different kinds of gas and electric lights. It may be asked why coal and wood are omitted from the study of fuels. This is because the lack of practical standards of measurements, the loss of heat caused by radiation, and other complicating factors make the problems unsuitable for a general course. Problems in the installation

of heating and ventilating systems are outside the immediate experience of the girls, and their technical difficulties are too great in relation to their value. Problems with regard to laundry lack sufficient reliable data. Problems in the purchase of house furnishings are omitted because the arithmetic involved is too simple in comparison with the complex sociological considerations involved.

After the budget divisions of shelter and operation have been completed, the attention shifts to the more personal needs of those within the home. The first of these needs to be considered is that of clothing. Problems connected with clothing include the estimation of the amount of material needed for garments, and also economical methods of purchase. First of all the girls learn not to talk about buying thirteen inches of material, but three-eighths of a yard; not to talk about buying five-sixths of a yard, but three-fourths or seven-eighths. Eighths and quarters are the trade measures, and the girls must learn to use them if they are to achieve any degree of skill in making their arithmetic serviceable in everyday life.

Then the girls learn how to estimate the allowance to be made for tucks and hems; the amount of material needed for ruffles, plaitings, bias trimmings, and for completed garments. The use of the bias brings in an element of difficulty that demands special consideration. Perhaps it is not necessary to state that a bias line of cutting is the diagonal of a square whose side is the width of the goods. Needless to say, the dressmaker does not find the length of a bias strip by means of square root, but by the practical rule that the bias line of cutting is approximately four-thirds of the width of the goods. Many problems in the use of the bias which are too complicated to admit of a simple arithmetical solution can be solved by means of various practical rules and devices. If, as is frequently the case, the material for trimming costs several dollars a yard, it is obvious that the ability to make accurate estimates may be a matter of more than academic interest even to the young girl whose chief concern in the subject is in its application to her girdles.

Problems with regard to the amount of material required for waists and for gored skirts depend upon the practical judgment

and experience of the dressmaker and are out of place in an arithmetic course.

In many respects the next topic in the course, that of food, is the most important as well as the most complex. Yet neither in the arithmetic nor in the technicalities of the subject-matter are the problems too difficult for young girls. The importance of proper feeding and the relation of food to efficiency are beginning to be understood as never before. Especially during the present crisis even young girls should know, not only the nutritive value of foodstuffs, but their relative cost.

This section begins with the alteration of recipes to serve a larger or a smaller number of persons. The girls learn through practice how to convert fractional parts of a cup to tablespoons, and how to state recipes in convenient household measures.

But in modern food economics the preparation of food for the table is only a small part of the study of food. Scientific feeding involves measuring the nutritive value of food. For this purpose the great calorie has been adopted as a unit of measure, since the three kinds of nutrients—proteins, fats, and carbohydrates—can be measured by their heat- or energy-producing capacity. The 100-calorie portion is used as a convenient unit in dietary planning. The girls are interested to find how much fuel they require per day according to various dietary standards. They learn how to compute the fuel value of foods from the government tables of the chemical composition of foods. They compute the weight of 100-calorie portions of common foods, and they learn to compute the fuel value of their own breakfasts and other simple meals.

But in these days of the high cost of living it is not enough to know how to find the relative value of foods as nourishment unless one also understands the relative cost of foods. The girls must know how to market to advantage in order to buy those foods that yield the greatest amount of nourishment while providing the needed variety. One way of bringing out this aspect of the problem is to study the relative amount of fuel that can be purchased for \$1.00 in various kinds of foods. In this way the possibility of food substitution for the purpose of cheapening dietaries can be made clear. The use of food substitutes will have to be undertaken

by many families during the next few years, and there is every reason why girls should understand how it can be done scientifically.

A convenient way to estimate the cost of menus and dietaries and to make substitutions of cheaper foods is to use the cost per 100 calories as a basis of comparison. If a man needs 3,000 calories per day, and thirty cents is the allowance for food, it is obvious that he cannot get enough to eat unless the average cost of food is one cent or less per 100 calories. Practice in planning meals at a specified cost per day gives the girls some skill in the application of arithmetic to the daily routine of feeding the family on a budget allowance.

After the study of food it might be expected that the course would be continued to include the other topic in the budget—advancement, or higher life. But the problems that would have to be included in this section, such as mortgages, stocks, bonds, and the investment of savings, are obviously outside the experience of twelve- to sixteen-year-old girls, while problems involving the expenditure of money for leisure-time pleasures, for education, travel, music, books, entertainment, and for charity offer such comparatively insignificant arithmetic in contrast to the enormously significant social problems involved that they would better be considered in a social-science course.

The four budget divisions—shelter, operation, clothing, and food—together with a study of budgets and accounts, have thus been made to serve as an outline of the course, and an attempt has been made to select the problems from the everyday experience of the girls in such a way as to broaden their general education and give them skill in the application of arithmetic to practical situations.

The division of the course into separate topics makes it possible to teach each section as a separate unit when or where it is most needed by any group of girls. Another advantage of this method of organization of the subject comes from the fact that it insures frequent repetition of the various processes of arithmetic. All of the important processes are repeated over and over again in a slightly different application, so that the emphasis is placed naturally on those more frequently used from the very fact that they

occur more frequently in the problems. Take the subject of percentage for instance. Introduced first under the division of the income, it appears again when methods of purchase are studied with reference to the percentage of saving or the percentage of waste effected by buying in large or small quantities, by cash or credit, by accurate or inaccurate measures. The actual loss when more material is purchased than can be utilized is viewed, not only as a certain definite money loss, but also as a certain percentage of increase in the cost of the garment. The average increase in the price of commodities in the local stores during a certain period forms a basis for estimating the percentage of increase in the cost of living during the period. In this way the girls learn to use percentage in practical situations, and they acquire the habit of considering, not only actual numerical differences, but also relative differences.

Again, take the subject of graphs. Used at first to illustrate the different amounts to be allowed for each division of the budget, the graph appears merely as a new way of representing numbers, more or less interesting because of its novelty. But as the graphic method is used over and over again in each section of the course to represent many different kinds of relations and comparisons, it begins to assume increasing importance, until the girls realize what a valuable tool it may be in bringing out the relative importance of facts whose significance is sometimes lost when stated in abstract numbers.

The actual arithmetic used in the problems may be briefly summarized as follows: common fractions, usually quarters, halves, thirds, and sixths; decimal fractions and approximations; aliquot parts of 100; percentage; proportion; and graphs. It is assumed that the girls have already studied these processes in the elementary school, and that they are ready to acquire skill in their application to practical problems.

One other matter remains to be considered—the teacher. In what department should such a course be taught? Can a teacher of mathematics be expected to understand the subject-matter sufficiently well to teach problems in scientific dietetics, in sewing, and in budget-making? Or can a teacher of household arts be

expected to understand methods of teaching mathematics well enough to do this work effectively? Perhaps these questions will have to be answered differently in different schools. One thing, at least, is certain—the course should be taught by someone who is in sympathy with its purpose and who is sufficiently well informed to make the problems serve the ends for which they have been selected. It would be a pity to have the teaching done by a person who was so absorbed in the subject-matter that she failed to utilize the opportunity to develop skill in the use of arithmetic; on the other hand, it would be almost worse to have the teaching done by a mathematician who had no interest save in the mere number relations, and who cared only for correct results with little or no regard for the sociological implications of the subject-matter.

A COURSE IN SOCIALIZED HIGH-SCHOOL CIVICS

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Feeling the need for a greater socialization of the work in civics, we have introduced into Riverside High School a civics course which seems to us better qualified to answer the modern demand. The aim of the course is to develop within the pupil a social sense or, as so well expressed by Professor Dewey, "to develop the power of observation, analysis, and inference with respect to what makes up a social situation and the agencies through which it is modified." We devote the senior year to the course. Surveys of the various governmental and social agencies are made by the pupils either individually or in class groups. These surveys are particularly valuable as a part of our laboratory work. Each pupil keeps a notebook and a scrapbook of newspaper and magazine clippings on the subjects pertaining to the work in hand. The bibliography accompanying the following outline is not intended as an exhaustive list of references but to be merely suggestive of what we are doing. The character of the list is influenced by the limitations of our school library.

SEMESTER ONE

A. NATIONAL GOVERNMENT

I. The need for government

1. Define government
2. What does the government do for us?
3. Show the necessity for the different departments of government

II. The constitution

1. What is a constitution?
2. Why do we have a constitution?
3. What was the origin of our constitution?

III. Consideration of federal government

1. The legislative department
 - a) The House of Representatives
 - (1) Composition and organization
 - (2) Legislative procedure

- b) The Senate
 - (1) Composition and organization
- c) Procedure in the House
 - (1) How is a bill introduced?
 - (2) Process of a bill through Congress
 - (3) Congressional customs
(Class organizes itself into a House for the consideration of bills)
- 2. Powers of Congress
 - a) Finance
 - (1) Constitutional provision
 - (2) Customs tariff
Principle of the protective tariff
The Tariff Commission
 - (3) Internal revenue
 - (4) Corporation and inheritance taxes
 - (5) Income tax
 - (6) Borrowing money
 - (7) Federal reserve banking system
National banks
Federal land banks
 - (8) Coinage of money
 - b) Commercial powers
 - (1) Constitutional provisions
 - (2) Navigation laws
 - (3) Government aid to shipping
Ship subsidy
Government ownership—shipping board
 - (4) Council of National Defense
Advisory commission and other subsidiary boards
 - (5) Food Administration
 - (6) Immigration
Regulation
 - (7) Interstate commerce
 - (8) Other commerce laws
Pure Food Law
Anti-trust laws
Trade commission
Embargo
Trading with the enemy
 - (9) Theory of government by commission
 - c) Naturalization
 - (1) Status of the family
 - (2) Connection with the immigration system
 - d) Prohibitions upon Congress

3. The executive
 - a) Nomination—convention, presidential primary
 - b) Election
 - (1) Change in methods
 - (2) Election by the House
 - (3) Study of the election machinery
 - c) Tenure of office
 - d) Qualifications of president
 - e) Presidential succession
 - f) Powers and duties of the president
 - g) Influence of the president
 - h) Study of the Civil Service Reform
4. The Cabinet
 - a) Constitutional provision
 - b) Study of the modern cabinet
5. Judiciary
 - a) Constitutional provision
 - b) Supreme Court
 - (1) Organization
 - (2) Importance and influence
 - c) Other courts and officers
 - d) Jurisdiction
 - e) How may Supreme Court decisions be overruled?
6. The government of the territories
 - a) The constitution in the territories
7. Amendments
 - a) Bill of Rights
 - (1) Origin and circumstances of its adoption
 - b) Remaining amendments
8. Nature of the federal government
 - a) State vs. nationalistic view
 - b) Implied powers
 - (1) Constitutional basis
 - c) The unwritten constitution
 - (1) Influence of custom

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———, *Readings in Government and Politics*.
Bryce, *American Commonwealth*, I, 32-37; 70-77; 142-53.
Cary, *Primer of the Civil Service and the Merit System*.
Congressional Record.
Hart, *Formation of the Union*, pp. 120-35.
James and Sanford, *Government in State and Nation*, Part II.

McLaughlin, *Confederation and the Constitution*, pp. 236-52.
 McLaughlin and Hart, *Cyclopedia of American Government*.
National Service Handbook, Committee on Public Information.
 Reinsch, *Readings in American Federal Government*.
 Rules of the National House of Representatives.
Statistical Abstract, United States Government.
Wisconsin Blue Book.
World Almanac.

B. MUNICIPAL GOVERNMENT

- I. Enormous growth of cities in the nineteenth century
 1. Causes for this growth
 2. New conditions developed by this growth
- II. City government is complicated
 1. General plan of city governments in the United States
 - a) Source of the city's power—the state
How is state's power delegated?
 2. European city governments—a comparison
 3. Other forms of city government
 - a) Commission government
 - b) Commission-manager government
 - c) Variations of these forms
- III. How have municipal governments worked in this country?
 1. Forces opposing good government
 2. Municipal problems
 - a) Public utility problem
 - b) Municipal ownership
- IV. Reform movements
 1. Municipal leagues
 - a) Voters' League of Milwaukee
 - b) City Club of Milwaukee
 2. Short Ballot League
 3. National Voters' League
 4. Civil Service Reform League

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 Howe, F. C., *The Modern City and Its Problems*, pp. 67-85.

James and Sanford, *Government in State and Nation*, chap. xxvi.
Story of the Short Ballot Cities, Publication of the Short Ballot Organization.
Woodruff, C. R., *Merit System in Municipalities*.
Zueblin, *American Municipal Progress*, pp. 87-94.

V. Study of Milwaukee city government

1. The city's history
 - a) The physiographic features
 - b) The rivalry of the three original settlements
 - c) Incorporation and combination
2. Population
 - a) Nationalities
 - b) Occupations
3. Government
 - a) Origin of the present charter
 - b) Study of the executive, legislative, and judicial departments
 - c) Administrative departments
 - d) Social welfare work of the city
 - (1) Health department
Divisions of education, child welfare, tuberculosis, sanitation, etc.
 - (2) Sanitation
Water supply, street cleaning, ash and garbage collection and disposal, the sewer system
 - (3) Police department
 - (4) Fire department
 - (5) Education—school administration
Industrial education, continuation schools, social centers, playgrounds
4. General discussion of Milwaukee government
 - a) Agencies for improvement
 - (1) Bureau of Municipal Research
 - (2) Citizens' Bureau of Municipal Research
 - (3) City Club
 - (4) Local civic societies
 - (5) Voters' League
 - b) City problems
 - (1) Street lighting
 - (2) City planning
Closing of the river
 - (3) Civil Service Reform
 - c) Individual investigations by pupils of various activities of the government
Original drawings by pupils on planning of city

References:

- Charter of the city of Milwaukee.
- Civil Service in Milwaukee*, City Club Pamphlet.
- "City Planning in Milwaukee," Dr. Werner Hegemann, Bulletin of City Club.
- Constitution of Wisconsin.
- Current articles in the *American City* and other magazines.
- Manual of the Milwaukee Common Council.
- Preliminary Survey of Milwaukee*, New York Bureau of Municipal Research.
- Proceedings of the Common Council*.
- Publications of the City Club, Voters' League, City Planning Commission, Sewerage Commission, City Service Commission.
- Report of the Engineers' Society of Milwaukee, Final Report on Milwaukee River Investigation.
- Reports of the various departments of the city government.
- Statutes of Wisconsin.
- The Government of Milwaukee, mimeographed descriptive sheets prepared by the department.
- Taft, W. H., "Washington" (City Planning), *National Geographic Magazine*, March, 1915.

C. LOCAL GOVERNMENT

- I. The township
 - 1. Origin of the township in America
 - 2. Western modification
 - 3. Composition and government of a Wisconsin township
- II. The county
 - 1. Origin of the American county
 - 2. Composition and government of a Wisconsin county
 - 3. Milwaukee county—area and population
 - a) Study of legislative, executive, and judicial departments
 - b) Problem of administration
 - (1) The county institutions
 - c) Other problems of the county
 - (1) The short ballot
 - (2) The civil service

References:

- Beard, *American Citizenship*, pp. 271-86.
- , *Readings in American Government and Politics*.
- Bryce, *American Commonwealth*, I, chaps. xlviii, xlix.
- Civil Service in Milwaukee County*, Bulletin of City Club.
- Clelland, "A Court That Prevents Criminals," *World's Work*, June, 1915.
- Constitution of Wisconsin.

Hart, *Formation of the Union*, pp. 11-13.

James and Sanford, *Government in State and Nation*, chap. i.

"Merging of City and County Governments," Bulletin of City Club.

Pamphlets of City Club, Civil Service Commission, County Board of Administration, Board of Supervisors.

Statutes of Wisconsin.

The Government of Milwaukee County, mimeographed sheets prepared by the history department.

D. STATE GOVERNMENT

I. Origin of the state constitutions

1. Study of colonial governments
2. Influences determining the type
3. How are constitutions made?
4. Analysis of the constitutions

II. Study of constitutions

1. The legislature
 - a) Historical development
 - b) Modern tendencies
 - c) Restrictions upon legislature
 - d) Procedure in the legislature
 - e) Scope of state law
 - f) Is uniformity of state law desirable?
2. The executive
 - a) Power of the governor
 - (1) Present tendency
3. Judicial department
 - a) Organization of the courts
 - b) Relation of courts to one another
 - c) Tenure of office
 - d) Appointment vs. election of judges
4. Discussion of the working of state government
 - a) The short ballot in the state
 - b) Government by commission
 - c) The Wisconsin idea

References:

Ashley, *American Federal State*, pp. 422-37.

Beard, *American Citizenship*, pp. 121-28.

———, *Readings in American Government and Politics*.

Bryce, *American Commonwealth*, chaps. xxxiv, xxxix, xlv, xlv.

Fiske, *Critical Period*, pp. 230-305.

Hart, *Formation of the Union*.

James and Sanford, *Government in State and Nation*, chap. xxiii.

Larned, *History for Ready Reference*.

McLaughlin and Hart, *Cyclopedia of American Government*.

Reinsch, *Readings in American Federal Government*.

Statesman's Yearbook.

III. Wisconsin government

1. General survey of the constitution

- a) Analyze according to plan laid down by James and Sanford
- b) Legislative department
 - (1) Composition
 - (2) Organization and procedure
- c) Executive
 - (1) Governor
Legislative, executive, and judicial power
 - (2) Lieutenant-governor
 - (3) Other elective officers
Secretary of state, treasurer, attorney-general, superintendent of public instruction
 - (4) Administrative officers
The commissions and their theory
- d) The judiciary

2. Taxation in Wisconsin

- a) Theoretical study of taxation
- b) Taxation of public utilities
- c) Income tax
- d) Inheritance tax
- e) Local taxation
- f) Federal taxes

References:

Beard, *Readings in American Government and Politics*.

Bullock, *Readings in Public Finance*, pp. 630-41.

Howe, *Wisconsin, an Experiment in Democracy*.

McCarthy, *The Wisconsin Idea*.

Preliminary Survey of Milwaukee, New York Bureau.

Reports of Wisconsin Board of Control, Board of Regents, and other commissions and boards.

Statutes of Wisconsin.

Wisconsin Blue Book.

Wisconsin Constitution.

Wisconsin Tax System, mimeographed sheets prepared by the department.

SEMESTER TWO

A. CONSERVATION

I. Conservation of the natural resources

1. How have they been dissipated?
2. What measures of conservation have been proposed?
3. What has been accomplished?

II. Conservation of plant life

1. What has been the characteristic of American farming?
2. Why is this becoming a problem?
3. What measures of conservation have been suggested?
4. What is our responsibility?
5. Backyard-garden movement
6. Conservation of foods

III. Conservation of animal life

1. Importance in the problem of food supply
2. Causes for depletion
3. Conservation measures

IV. Conservation of human life

1. What is the importance of a human life?
2. Why should we as a class be interested in the life of a workman whom we know not?
3. Why is community health "a civic obligation"?
4. What is being done locally and nationally in this field?
5. Special study of sanitation in Milwaukee
6. The "safety first" movement
7. Industrial diseases
8. Infant mortality

References:

- Allen, *Civics and Health*, pp. 3-44; 283-328.
Beard, *Readings in American Government and Politics*.
Bogart, *Economic History of the United States*, pp. 1-15; 523-37.
Brigham, *Geographical Influences on American History*.
Burkitt, *Cotton*, p. 175.
Commons, *Trade Unionism and Labor Problems*, pp. 435-53.
Doudlinger, *The Book of Wheat*, pp. 148-87.
James and Sanford, *Government in State and Nation*, pp. 284-85; 85-87.
Lessons in Community and National Life, U.S. Bulletin.
Mathews, "High School and the Tussock Moth," *American City*, October, 1917.
Merrill, *Industrial Geography of Wisconsin*, pp. 82-91.
National Service Hand Book, United States Government, pp. 63-86.
Nelson, "Rat Pest," *National Geographical Magazine*, July, 1917.
Publications of the United States Department of Agriculture.
Proceedings of the Governors' Conference, 1908.
Reinsch, *Readings in American Government and Politics*.
Reports of the Wisconsin Industrial Commission.
Spargo, *Common Sense of the Milk Problem*, pp. 120-50.
Statistical Abstract, United States Government.
Towne, *Social Problems*, chaps. i, xv, xvi, xvii.
Van Hise, *Conservation of the Natural Resources*.
Wisconsin Blue Book, pp. 2-33.

B. THE FAMILY

- I. The importance of the family
 1. Heredity and its influence
 2. Environment
- II. The ideals of the family
- III. Influences which affect the stability of the family
 1. New economic conditions
 2. Different social standards
 3. Marriage and divorce problem
 - a) Suggested remedies

References:

- Allen, *Civics and Health*, pp. 203, 335.
 Beard, *American Citizenship*, chap. iii.
 Ellwood, *Sociology and Modern Social Problems*, pp. 135-67.
Encyclopaedia Britannica, art. "Heredity."
 Jewett, *The Next Generation*, pp. 7-80.
Statistical Abstract, United States Government.
World Almanac.

C. THE UNFORTUNATE

- I. Poverty and pauperism
 1. Definitions
 2. Causes
 3. The liquor problem
 4. Remedies

References:

- Beard, *American Citizenship*, pp. 228-32.
 Ellwood, *Sociology and Modern Social Problems*, pp. 283-309.
Encyclopedia Britannica, art. "Housing."
 Hunter, *Poverty*, chaps. i, ii, iii, iv.
International Encyclopedia, art. "Housing."
 Report Immigration Commissioner, "Living Conditions in Milwaukee."
 Reports by pupils on city, county, and state institutions which administer to the poor.
 Reports Milwaukee Board of Health.
 Riis, "In the Slums," *American History of Contemporaries*, IV, 654.
 Towne, *Social Problems*, chaps. xiii, xiv.

II. Mental defectives

1. Feeble-minded
 - a) The backward child
 - b) Classes of feeble-minded
 - c) Education and care
2. The insane
 - a) Prevention and treatment

References:

James and Sanford, *Government in State and Nation*, pp. 72-73.

Jewett, *The Next Generation*, chap. xxv.

Reports of city, county, and state institutions for the care of mental defectives.

Towne, *Social Problems*, chap. x.

III. The criminal

1. Definition of crime
2. Classification of criminals
3. Cost of crime
4. Modern attitude toward the criminal
5. Prevention of crime
6. The reformation of the criminal
 - a) Probation, indeterminate sentence, cumulative sentence, parole, pardon
7. Prison labor
8. The juvenile offender and his treatment

References:

Beard, *American Citizenship*, pp. 222-25; 248-51.

James and Sanford, *Government in State and Nation*, chap. viii.

McLaughlin and Hart, *Cyclopedia of Government*.

Reports of the Wisconsin Board of Control.

Survey and other magazines on care and treatment of criminals.

Towne, *Social Problems*, chap. xi.

D. THE LABOR PROBLEM

I. Population

1. Causes of increase
2. Distribution
3. Race and nationality
4. The negro problem

II. Immigration

1. Causes and effects
2. Regulation and distribution

III. Child labor

1. Causes and resulting evils
2. Regulation and prevention

IV. Woman labor

1. Female vs. male
2. Effect of this competition
3. Remedial measures proposed

V. Labor organizations

1. History of the movement

2. Unions
 - a) Classes
 - b) Influence
 - (1) Social, economic, political
3. Closed shop vs. open shop
4. Collective bargaining
5. Strikes
6. Arbitration
- VI. Labor legislation
 1. Safety and comfort of employees
 2. Wages; minimum wage laws
 - a) Sweat shops
 3. Hours of labor
 4. Courts, injunctions, etc.
 5. Industrial education
 6. Labor bureaus
 7. Employers' liability and workingmen's compensation
 8. Insurance
 - a) Unemployment
 - b) Health
 - c) Life
 9. Pensions

References:

- American Labor Legislation Review*, "Unemployment," June, November, 1916.
- Antin, Mary, *The Promised Land*.
- Beard, *American Citizenship*, pp. 10-19; 195-97.
- Bogart, *Economic History of the United States*, pp. 472-505.
- Bullock, *Selected Readings in Economics*, pp. 589-612.
- Commons, *Trade Unionism and the Labor Problem*, p. 546.
- Ellwood, *Sociology and the Modern Social Problems*, pp. 197-229.
- Howe, "Turned Back," *Survey*, May 6, 1916.
- Hunter, *Poverty*, pp. 261-317.
- James and Sanford, *Government in State and Nation*, chap. xi.
- Lessons in Community Life*, No. 4, p. 11; U.S. Bureau of Education.
- Marshall, Wright, and Field, *Materials for the Study of Economics*, pp. 709-15; 144-46.
- "Our Foreign Born Citizens," *National Geographic Magazine*, February, 1917.
- Reinsch, *Readings on American Federal Government*.
- Report of Bureau of Labor and Industrial Statistics, Wisconsin, 1911-12, Newsboys of Milwaukee.
- Riggs, "Italy, the Gifted Mother of Civilization," *National Geographic Magazine*, October, 1916.
- Towne, *Social Problems*, chaps. ii, iii, iv, v, vi, vii, viii.
- Wood, "A Strikeless State," *Saturday Evening Post*, March 18, 1916.

Do the pupils respond to the second semester's work? The result is most gratifying indeed. It has opened virgin fields of thought for these young people that we hope will be productive of good results and be of lasting influence. It is moral instruction of a most practical type. The classes are interested and appear to appreciate the value of the work. When the class resolves itself into a civic club with a pupil in the chair for the discussion of some vital topic, it is sometimes difficult to secure an adjournment. Let me quote from comments and suggestions upon our classwork which the pupils have written and handed to the teacher from time to time. Nearly all of the students taking the work avow that it is the most interesting study that they have taken in the high school. Says one: "We get into a rut by living our own lives and not showing an interest in the social evils which surround us. If civics were made compulsory, we would not have the conditions in Milwaukee which Mr. X (a social worker) told us about." Another: "I feel that I learn something every day that helps me to understand those who are less fortunate than I. It gives me a broader sense of life and the responsibilities that we have. I feel that something ought to be done by everyone to help these conditions." And still another: "It has made me think. The majority of the good derived from this study is to come from within us, not from books." This boy of his own accord exactly expressed our aim: "The good derived must come from within." It is not our object to have the boys and girls store away a mass of facts but to establish for themselves a viewpoint from which they will get a vision, healthy and wholesome, of their responsibility and duty to society.

NOTE.—Good bibliographies on social questions may be found in Ellwood, *Sociology and the Modern Social Problems*, and in Towne, *Social Problems*. An excellent discussion on the teaching of community civics will be found in Bulletin, No. 28, 1916, United States Bureau of Education. A further bibliography may be found in the *Circular of Information*, No. 5, Massachusetts Board of Education.

EDUCATIONAL NEWS AND EDITORIAL COMMENT

THE JOHNS HOPKINS STUDIES IN EDUCATION

The Johns Hopkins University announces the establishment of a new publication entitled "The Johns Hopkins University Studies in Education." This publication will include monographs presenting the results of investigations conducted at the University or elsewhere which, because of their importance, should appear as separate units and at once. The "Studies in Education" are edited by Professor Edward F. Buchner, with the co-operation of Dr. C. Macfie Campbell, and published by the Johns Hopkins Press, Baltimore, Maryland.

The Correlation of Abilities of High-School Pupils (100 pp.) by Dr. David Emrich Weglein, and *Experimental Study of Motor Abilities of Children in Primary Grades* (62 pp.) by Dr. Buford Jennette Johnson, Nos. 1 and 2, respectively, of the "Studies," have just appeared.

THE GARY SYSTEM IN NEW YORK UNDER FIRE

The recent election in New York appears ominous for the Gary system inaugurated under Mayor Mitchell's administration. Hylan, the successful Tammany candidate, very frankly made the experiment a campaign issue, attempting to foment opposition among the more ignorant classes of citizens. The extreme pettiness of the prejudice stirred up is illustrated by the exclamation of a German-American mother, "We want our kinder to learn mit der book, der paper, und der pencil, und not mit der sewing und der shop." Stupidity of this sort is supplemented by stirring up the children themselves, who object, even with school riots, to remaining one hour longer in school. To indicate the depths of contemptible opposition to which have sunk men who ought to know better, we may cite the argument often made by stump speakers that the Gary system is intimately associated with Judge Gary, of the steel corporation. This false statement was used to induce the belief that the Gary system of schools is foisted upon the working classes as some additional form of exploitation in favor of the moneyed class. When the campaigners did present anything like creditable opposition,

they seized upon schools which had made the experiment in untoward circumstances, or which, because of lack of equipment, had been compelled to give the system a half-trial.

We are for the moment making no attempt to defend the Gary system as suitable for New York City. However, an interesting feature frequently brought out in the campaign is the almost unanimous approval of the principals and teachers who have conducted the work. Assembly room, library, gymnasium, swimming-pool, playgrounds, laboratories, shops, and many other features of school equipment are making their impression on the educational staff. They are realizing, even if ignorant parents fail to see, that a school must be a place in which pupils live as well as learn, must be a place in which children come in contact with educational values through participation in miniatures of life-activities as well as through books. It is this central feature of the Gary system, certainly in line with the most progressive educational thought of the day, that every friend of progress would grieve to see swallowed up as one delicate morsel by Tammany.

CURRENT PRACTICE IN CITY SCHOOL ADMINISTRATION

In the convenient form of government *Bulletin*, 1917, No. 8, of the United States Bureau of Education, data are presented concerning the current practices in school administration of cities of over 25,000 population. In cities having between 25,000 and 100,000 population the number of board members ranges from 3 to 21, median 7. In cities of over 100,000 the range is between 4 and 46 with the median 9. Following is the distribution:

1 city	4 members	1 city	14 members
11 cities	5 "	4 cities	15 "
3 "	6 "	1 city	21 "
8 "	7 "	1 "	30 "
9 "	9 "	1 "	46 "
5 "	12 "		

The bulk of American cities show the following practices:

1. Of the boards 79 per cent are elected, 16 per cent appointed by mayor, 5 per cent by council or commission.
2. Only 11 per cent of the cities retain the system of election or appointment by wards.
3. Median tenure of office is four years.

4. Only 15 cities compensate their school-board members; in many of these cases the amount is small. San Francisco, a notable exception, pays its four commissioners \$3,000 each.

5. It is the general practice for the school board to refer new items of business to committees. This plan is followed by 37 of 39 cities of over 100,000 and 104 of 121 cities between 25,000 and 100,000 population. The average number of standing committees is five; the median number of members per committee three.

6. The city treasurer acts for the school board in 31 cities over 1,000,000, and in 76 of those below.

7. In the selection of teachers in cities over 100,000: in 9 cities the superintendent appoints; in 17 he recommends; in 9 he nominates either one teacher or a list; in 2 he has equal voice with a committee. In cities below 100,000: in 53 cities superintendent recommends to a committee; in 35 he nominates; in 23 he appoints; in 16 he advises; in 1 he has no power; in 1 he passes on qualifications.

8. Probationary periods for teachers are common: 29 out of 39 cities reporting mention this provision; 16 cities have probation periods of one year; 7, three years; 4, two years; 1, five months; 1, four months. Of 129 cities over 100,000, 70 provide for probationary appointment; 13, less than 1 year; 38, one year; 10, two years; 7, three years; 2, four years.

NIGHT SCHOOLS

In spite of, possibly because of, the fact that many thousands of men have been summoned into military service, never before has a November reported such nation-wide interest in night schools. Two classes of adult citizens seem to be drawn by the need of additional training: first, the women of the land who are taking to heart the conservation program of Mr. Hoover's department; secondly, the young men and women not yet directly in the national service who feel the need of being additionally prepared for the demands and opportunities of the next few years.

A ringing editorial in the *Dayton (Ohio) Journal* admirably expresses the spirit that lies back of the far-spread advance upon the opportunities of the night school. Under the title, "Dayton Going to School," the *Journal* says:

Announcement that attendance at the Dayton night school is now two thousand, the largest in the history of the institution, is most encouraging. It indicates a healthful desire on the part of those whose youthful elementary education has been curtailed to make up for the deficiency; but, of even greater importance, it suggests that the public in Dayton is desirous of co-operating

heartily with the national government in its repeatedly expressed admonition that, at least during the period of the war, every individual who possibly can do so should fit himself for advanced and varied service.

There is at present no means of knowing what service may be required of any of us, or what knowledge may be of value to us individually and to the government later on. It may be needed before the war ends or it may be incidental to the restoration of peace when America certainly will marshal its vast industrial armies.

In any event the schooling can do no one harm whether the government does or does not find a need for our services along the new line of preparation. Knowledge gained in the night school has spelled success for many an individual. It means better employment, higher pay, more happiness, a greater appreciation of the good things of life, and a life of greater usefulness.

Three facts stand out most clearly. A very large majority of night-school students are adults. In Fargo, North Dakota, a small city, out of 320 enrolled in one school 277 are twenty-one years of age or more. The night school is distinctly an adult school. The second fact is the intense practical nature of the work. Typewriting, stenography, chemistry, bookkeeping, French, manual training, higher mathematics, predominate. In short, trade or vocational training of an intensified character makes up the bulk of the curriculum. The third fact is that our foreign-born citizens appear to be most eager for the opportunities. Salt Lake reports in one night school of 200 registration 35 different nationalities. Naturally English for this group is the most widely popular study. Our night schools are one of the means by which we can point forward the civilization of our many races into one race. Moreover, the country over, cities are emphasizing the fact that the extension classes are part of their response to the needs of the hour. As Grand Rapids, Michigan, aptly puts it, the night schools opened, "responding to an appeal from Uncle Sam." For 1916 there are records of 1,700 towns and cities, representing every state in the Union, which maintained night classes. For 1917 the word comes from Washington that "the opening of this year's classes is accompanied by every indication of greatly increased attendance and a material betterment of the results already obtained through this stupendous educational campaign."

SAVE THE SOCIAL CENTERS

The *Chicago Evening Post* prints the following argument in favor of social centers:

Doubtless the school board finds the problem of fuel supply as difficult of solution as it is proving to everybody else, but the plan of the chief engineer

to economize by closing up the school social centers is of very questionable expediency, to say the least.

The social center is quite as useful and necessary a factor in our community life as the school itself, and at no time were its activities more desirable than now. The task in which the nation is engaged requires that we shall not merely conserve but extend in every possible way all agencies that foster the community spirit and contribute to intelligent, contented citizenship. Never have men and women needed the sense of fellowship, of common interest, and the opportunity to express it more than they do today.

The school is the natural rallying-place for the neighborhood. It belongs to the people. Beneath its roof all racial, social, and creedal distinctions are merged in the commonality. There is no other institution of which this is true. To close the social centers would be a sin against the democracy for which we are fighting, a blow at the morale of our people, a subversion of community efficiency at the time when it is vital to maintain efficiency.

As the social center has developed in Chicago's schools, under the direction of men and women of vision and social spirit, it has become far more than a neighborhood recreational opportunity. It is an educational agency of greatest value. It is a promoter of intelligent patriotism, an antidote for disloyalty and sedition. It cultivates Americanism. Close the social centers and you extinguish so many fires beneath the great melting-pot of our heterogeneous citizenship; you check the fusing process so essential to the strength of our national life.

Much of self-sacrificing labor has gone into the building up of the social centers in Chicago schools. No labor has been more fruitful for good. The undoing of this excellent work is not to be considered while there is any other way to meet the emergency. Chicago needs it and the nation needs it. Thousands of men and women, boys and girls, will suffer hardship if deprived of its advantages. The school board should instruct its chief engineer to discover some less costly method of economizing.

SCHOOL BUILDINGS BELONG TO THE PUBLIC

From Denver comes the cheering word that Superintendent Cole has convinced the Board of Education that school buildings belong to the public and are capable of serving the public in the evening as well as during the day. Many a school board has been reluctant to allow gatherings of citizens the free use of school buildings. Forsooth light and heat and janitor services for night meetings often might amount to a serious consideration. At the present moment this condition is threatening the well-established social centers of Chicago. In some communities a sensible procedure might be to charge bare expenses; but it seems incredible to think that a municipality cannot afford to provide free of cost suitable gathering-places. Parks and playgrounds

are part of our municipal programs for maintaining the health of our people. By what stretch of logic is it possible to deny the need for the same purposes of municipal halls and lyceums? Far from being discouraged in the desire to utilize school plants, citizens should be urged to make use of their own property, the public schools. No new building should be erected unprovided with an easily accessible, comfortably furnished public meeting-place. As in Denver, any reputable body of citizens ought to be able to petition for the use of the auditorium. In that city three taxpayers, who become guarantors for the safe-keeping of public property, apply for the hall. An assistant superintendent of schools approves the petition, or rejects it, upon suitable grounds. Denver has gone the limit of liberality, extending to her people the use of these public halls free of expense.

WAR SAVING ON METHOD OF ORDERING TEXTBOOKS

Earlier ordering of school textbooks by boards of education offers a fruitful field for saving in war time, according to Henry P. Kendall, of the Plimpton Press. If school boards can arrange to adopt school texts before January first, asserts Mr. Kendall, instead of waiting until the end of the school year in June, a large saving in the bookbinding trade will result. Ordering school textbooks earlier in the year will, it is declared, help to regularize employment in the schoolbook trade, making uniform hours of work and rates of pay possible throughout the year. In one plant at the present time the hours of labor so vary between winter and summer that, on a basis of 100 per cent as the flat weekly wage, operators during the summer months, because of overtime, earn about 130 per cent and during the winter months about 60 per cent. The workers are obliged to work very long hours in the summer time and to go without vacations.

Earlier ordering of schoolbooks will also conserve human energy, because it will make it possible to run a factory with a minimum number of employees; it will save machinery, because less will be required to produce; and it will save coal in conserving the heat, light, and power. Furthermore, the efficiency of the plant can be greatly increased where work is uniform in quantity, and the cost of production is much less in a plant where the product is produced more uniformly. As a result of Mr. Kendall's suggestion the Commissioner of Education has written to every city school board in the country asking whether it will not be possible hereafter to order schoolbooks before the first of January.

SUPERVISED STUDY

Questionnaires submitted to high-school pupils are always of doubtful value. W. M. Proctor, of Leland Stanford Junior University, has collected replies from 1,661 pupils of the Pacific Coast, who indicate that they spend an average of 95 minutes a day in school study and 68 minutes a day in home study. Apparently these data were derived from schools few of which maintain any form of supervised study. Mr. Proctor then undertook to canvass the schools which provided for a lengthened school day and resulting supervised study periods. Replies were received from 42 schools; 31 report the lengthened period divided as follows:

(a)	60' period, divided 30-30,	No. of cases	3
	60' " " 35-25, " " "		1
	60' " " 40-20, " " "		15
	60' " " 45-15, " " "		1
	63' " " 33-30, " " "		1
			21
(b)	70' " " 40-30, " " "		4
	70' " " 35-35, " " "		2
			6
(c)	80' " " 40-40, " " "		1
(d)	85' " " 45-40, " " "		2
(e)	90' " " 45-45, " " "		1
Total.....			31

Of the remaining eleven schools six employ a study coach; two have special conference periods, where teachers meet all the pupils who are taking work under them for help and direction in their studies, and three have some special method of administering the Study Hall.

Testimony of principals is somewhat divided, though generally favorable to the plan: 26 principals said that study habits have been improved; 2 said that only the slow students have been helped, while the brighter ones have not; 22 said that home study has been greatly reduced; 4 could see no change; 25 said that pupils and teachers co-operated heartily; several said that teachers talked too much during the study periods. Mr. Proctor continues:

Wherever the plan had been in use long enough to make possible the compiling of statistics as to the effect of supervised study on scholarship there was practically unanimous agreement that the number of failures had been reduced and the standards of scholarship had been raised. The high school at Snohomish, Washington, reports that the average percentage of failures in elementary algebra for the two years prior to the adoption of supervised study was 28 per cent. But for the two-year period following the adoption of super-

vised study the failures in the same subject were reduced to 17 per cent. Hoquiam, Washington, reports that the average marks of the students range 10 per cent higher and that the number of honor pupils has been doubled since supervised study was introduced. The principal of the Arcata high school, California, reports that the average mark of the Freshman class has been raised from 78 per cent to 82½ per cent during the first year of supervised study. Santa Cruz, California, comparing the year 1914-15, the last under the old plan, with the year 1916-17, the second year under supervised study, finds that the increase in the total number of high marks has been 157 per cent, the decrease in low marks 230 per cent, and the decrease in failures 188 per cent. Reno, Nevada, reports a decrease of 45 per cent in the number of failures and an increase of 24 per cent in the number of students making excellent marks.

THE RAPID-ADVANCEMENT CLASS

In the September issue of *Educational Administration and Supervision* Miss Eva L. Mulrey, of Cambridge, Massachusetts, describes a method by which the schools of that city make provision for the rapid advancement of specially gifted pupils. A combination group of fourth, fifth, and sixth grades receives pupils from the third; a combination group of sixth, seventh, and eighth receives pupils from the fifth. The two combination groups are not tried in the same district in any one year. From all the fifth grades of any one district the group of thirty pupils are selected, and upon them their rare opportunities are impressed. Miss Mulrey says: "These children are of necessity as nearly perfect, physically, mentally, and morally, as we can imagine. No child is admitted who is not 'A-1' in conduct. He may not be perfect in arithmetic, but he may excel in English. He may not spell correctly every word, but he may do excellent work in history."

The course of study which is given rapid-advancement classes is characterized by the comparative absence of drill. Little drill is necessary because the children are very quick to see, to comprehend, and to retain. Incidentally this fact brings home the enormous waste of time for bright pupils who keep pace in grade promotions with their slower fellows. A second feature of the curriculum is the elimination of what Miss Mulrey calls "frills." Music, manual training, and drawing are given little prominence. Nature-study is correlated with geography, physiology with hygiene and science, and all of these courses supply abundant opportunities for exercises in oral and written expression. The special group is kept together for two years, thus passing from the fifth grade to the first year of high school in two years.

The experiment is interesting and will bear observation. At present it seems not unfair to say that the rapid-advancement class, with its difficulties of administration, with its resultant hard feelings and heart-aches, with its depressing effect of loading upper grades with slow pupils, is but a cumbersome device. The saving of one year for the brighter pupils, or even two years by semiannual promotions, or, still better, by promotions at unstated intervals, appears to be a much more sensible program. However, the motives of economy of time for pupils and economy of teaching energy are so necessary of attainment that experiments to secure these ends ought to be multiplied.

CO-OPERATION WITH LATIN-AMERICAN UNIVERSITIES

One inevitable result of the world-war will be a closer drawing together of North and South America, the various nations realizing that America for Americans must be ever more vigorously maintained. Early this year a committee of the American Association of University Professors sent a letter to fifty-nine universities of the United States and to twenty universities of Latin America proposing the establishment of exchange professorships, the establishment of fellowships, and a program of scientific co-operation between the institutions of the two Americas.

Although the war has for the moment introduced an element of uncertainty in university finances, seven institutions in the United States have signified their readiness to co-operate next year. The University of Illinois has established an exchange assistantship with Chile; the University of Indiana, a docentship open to all Latin America. Leland Stanford Junior and Clark universities offer liberal scholarships, while many other institutions promise to give special consideration to applicants of merit from South America.

Up to the present, shortness of time has allowed plans to be formulated by only four institutions in the other America. The National University of Chile, the University of Buenos Aires, the University of Tucuman, and the University of Honduras all welcome the proposal with gracious thoughts of compliance. The committee of the Association of University Professors through its chairman, Mr. L. L. Rowe, modestly referring to the at present scanty results, expresses a hope that the proposals may not be allowed to languish. It is indeed fitting that the leading institutions of learning in the twin Americas shall at once begin to promote acquaintance and cement the friendships among all nations of the Western Continent.

EDUCATIONAL WRITINGS

I. HOW TO KEEP IN TOUCH WITH THE QUANTITATIVE LITERATURE OF EDUCATION

H. O. RUGG
University of Chicago

The outstanding characteristic of education as it has developed in the last fifteen years is found to be a general acceptance of the quantitative method by school men. As education has become more and more a scientific profession, it has been recognized that the success of the school man is determined most largely by the degree to which he keeps in touch with the quantitative tools. To the school administrator and teacher the most necessary tools of the day, aside from classroom and school experience, are acquired by keeping up to date with the quantitative literature in education.

This quantitative literature is multiplying more rapidly than the teacher or superintendent interested in the general field of education can hope to keep in touch with it. We recognize clearly today that we must select our field of interest, and we find that, even when doing so, it requires unusual efforts to keep acquainted with what is coming out in school report, magazine, monograph, and book.

Agencies which are equipped to acquaint the school man with this rapidly multiplying literature must take upon themselves more and more actively the carrying out of this function. It is the purpose of the following discussions to put into the hands of school people a systematic method of keeping in touch with the quantitative literature of the day. It may be said at this point that the review editors of these journals will attempt to keep this particular device up to date from year to year and thus place at the disposal of the school man an ever-ready tool to help him in staying abreast of the times.

A. THE NECESSITY FOR WELL-SELECTED BIBLIOGRAPHIC MATERIAL

The student who wishes to attack the solution of any new problem in education faces first the task of mastering what has been done by others in the same field. His first need is that of a well-selected bibliography in his particular field. Most bibliographies covering the general field of education, or even of its more important subdivisions, contain material which has not in all cases been properly evaluated. The student wishes to know, out of the hundreds of studies which have been made in his field, which ones will be most helpful

to him in starting upon his problem. One of the characteristics of the recent movement in education is that school men have more and more turned to this task of making systematic evaluations of bibliographic material and have reported these in connection with their books or original studies in the particular fields. The tendency recently has been to give the reader a selected and evaluated bibliography. We therefore print first, in this review, a list of books each of which gives the reader for the field in question a well-annotated and clearly organized bibliography.¹

A LIST OF TEXTBOOKS ON EDUCATION, EACH OF WHICH CONTAINS SELECTED BIBLIOGRAPHIC MATERIAL

I. SCHOOL ADMINISTRATION

A. General Field

1. CUBBERLEY, E. P. *Public School Administration*. Boston and Chicago: Houghton Mifflin Co., 1916.
- 2. RUGG, H. O. *Statistical Methods Applied to Education*. Boston and Chicago: Houghton Mifflin Co., 1917.
3. STRAYER, G. D., and THORNDIKE, E. L. *Educational Administration; Quantitative Studies*. New York: Macmillan, 1913.

B. Special Phases of Administration

1. MINIMAL ESSENTIALS IN VARIOUS SUBJECTS. National Society for the Study of Education, *Fourteenth Yearbook*, Part I (1915), *Sixteenth Yearbook*, Part I (1917), *Seventeenth Yearbook* (in preparation, issued February, 1918). Bloomington, Ill.: Public School Publishing Co.
2. THE CURRICULUM. BOBBITT, J. F., "Summary of the Scientific Studies on Curriculum Making," *Elementary School Journal*, October, 1917.
3. JUNIOR HIGH SCHOOL. DOUGLASS, A. A., Part III of the *Fifteenth Yearbook*, National Society for the Study of Education. Bloomington, Ill.: Public School Publishing Co., 1916.
- 4. SCHOOL SURVEYS: CITY, STATE, INDUSTRIAL, AND RURAL. RUGG, H. O., *Statistical Methods Applied to Education*. Boston and Chicago: Houghton Mifflin Co., 1917.
5. SCHOOL COSTS AND BUSINESS MANAGEMENT. RUGG, H. O., "Summary of the Literature of Public-School Costs and Business Management," *Elementary School Journal*, XVII (April, 1917), 591.
6. PROMOTION PLANS. HOLMES, W. H., *School Organization and the Individual Child*. Worcester, Mass.: Davis Press, 1912.
7. TEACHERS' MARKING SYSTEMS. RUGG, H. O., "Teachers' Marks and Marking Systems," *Educational Administration and Supervision*, February, 1915.
8. EDUCATIONAL MEASUREMENT AND STANDARD TESTS.
 - (1) GRAY, W. S., "Descriptive List of Standard Tests," *Elementary School Journal*, XVIII (September, 1917), 56.

¹ It should be pointed out that some of these bibliographies contain references to material of a non-quantitative nature. They are included in this review to bring all phases of educational literature within reach of the student of education.

- (2) HOLMES, H. W., and others, *Descriptive Bibliography of Measurement in Elementary Subjects* (Harvard Bulletins in Education, No. 5). Cambridge, Mass.: Harvard University, 1917.
9. VOCATIONAL GUIDANCE. BREWER, J. M., and KELLY, R. W. *Selected Critical Bibliography of Vocational Guidance* (Harvard Bulletins in Education, No. 4). Cambridge, Mass.: Harvard University, February, 1917.
10. SECONDARY EDUCATION.
 - (1) MONROE, PAUL (Editor), *Principles of Secondary Education*. New York: Macmillan, 1914.
 - (2) SNEDDEN, D. S., *Problems of Secondary Education*. Boston, New York: Houghton Mifflin Co., 1917.
11. COMMUNITY CENTER ACTIVITIES. PERRY, C. A., *Community Center Activities*. New York: Russell Sage Foundation, 1916.
12. SUPERVISED STUDY. HALL-QUEST, A. L., *Supervised Study*. New York: Macmillan, 1916.
13. SCHOOL HYGIENE. RAPEER, L. W., *Educational Hygiene*. New York: Scribner, 1915.

II. TEACHING THE VARIOUS SUBJECTS

1. TEACHING ELEMENTARY SUBJECTS. RAPEER, L. W., *Teaching the Elementary-School Subjects*. New York: Scribner, 1917.
2. ENGLISH. HOSIC, J. F. (Compiler), *Reorganization of English in Secondary Schools* (Bulletin 2, 1917). Washington: U.S. Bureau of Education.
3. MATHEMATICS. SMITH, D. E., *Teaching of Mathematics*. Boston: Ginn & Co.
4. SCIENCE. TWISS, G. R., *Textbook in the Principles of Science Teaching*. New York: Macmillan, 1917.
5. HISTORY, CIVICS, AND GOVERNMENT.
 - (1) JOHNSON, HENRY, *Teaching of History in Elementary and Secondary Schools*. New York: Macmillan, 1915.
 - (2) WAYLAND, J. W., *How to Teach American History*. New York: Macmillan, 1914.
 - (3) AMERICAN POLITICAL SCIENCE ASSOCIATION, COMMITTEE ON INSTRUCTION, *Teaching of Government*. New York: Macmillan, 1916.

III. EDUCATIONAL PSYCHOLOGY

1. GENERAL FIELD. Very complete summaries, critical comment, and bibliographies of general field in: THORNDIKE, E. L., *Educational Psychology* (3 vols.): Vol. I, *Original Nature of Men*; Vol. II, *Psychology of Learning* (covers field of practice curve and transfer of training); Vol. III, *Mental Work, Fatigue, and Individual Differences*. New York: Teachers College, Columbia University, 1913-14.
2. TRANSFER OF TRAINING. Complete tabular and descriptive summary of studies to 1914 in: RUGG, H. O., *Experimental Determination of Mental Discipline in School Studies*. Baltimore: Warwick & York, 1916.
3. MENTAL TESTS.
 - (1) TERMAN, L. M., *The Measurement of Intelligence*. Boston, New York: Houghton Mifflin Co., 1916.
 - (2) WHIPPLE, G. M., *Manual of Physical and Mental Tests* (2 vols.). Baltimore: Warwick & York, 1914.

B. SOURCES OF THE CURRENT QUANTITATIVE LITERATURE IN EDUCATION

Knowing the sources to which to turn for bibliographic material, the school man also needs to be in touch with the *permanently established agencies* which are constantly issuing quantitative literature. For those administrative officers and school teachers who have not already at hand a list of these sources, we enumerate the most important of them next. In each case bureaus or other types of educational agencies have been included if it seems likely that the school man by keeping in touch with them will be able to secure from time to time material of a sort helpful to his school practice. The idea underlying this next phase of our review is that there are certain more important bureaus, foundations, departments, etc., which are continually investigating scientifically specific aspects of school practice, and which are reporting the results to workers interested in the various problems. The list follows:

I. BUREAUS AND FOUNDATIONS OF NATIONAL SCOPE

1. **U.S. Bureau of Education**, Washington, D.C. Four types of publications: (a) *Annual Report* of the Commissioner of Education comprises two volumes. Vol. I is made up of descriptive reports on current movements in education, recent educational experiments and innovations, descriptive summaries of conditions both in this country and abroad; Vol. II comprises detailed statistics for all cities and towns above 5,000 population which have reported to the Bureau during the past year. Statistics are for all phases of finance (revenues and expenditures, unit costs, etc.), attendance statistics, and statistics on the teaching staff. (b) *Bulletins* of the Bureau of Education. Each year the Bureau publishes approximately fifty bulletins written by collaborating specialists of the Bureau on particular problems of education. In the past some most important contributions to educational administration have been made through these bulletins. Lists can be found in the back cover of each bulletin. Under war conditions charges are made for each of these bulletins to those who are not on the selected mailing list. (c) *News Letters* of the Bureau of Education. Mimeographed material on particular aspects of education received intermittently by those on the mailing list.
2. **Russell Sage Foundation**, 130 E. 22d Street, New York City. Division of Education, Leonard P. Ayres, director. Has published since 1908 many valuable monographs and bulletins on special phases of educational administration. Send for bulletin announcing the activities and publications of the bureau. Publications sold at cost, in the main from 5 cents to 25 cents. A few larger monographs have been published.
3. **Carnegie Foundation for the Advancement of Teaching**, 576 Fifth Avenue, New York. 1916. (a) *Annual Reports* (eleventh annual report of the president and of the treasurer, October, 1916) containing many reports of detailed investigations on teachers' pensions for colleges and public schools; also summaries of studies made by the division of educational inquiry. (b) *Bulletins*. Ten separate bulletins, subjects of which can be found in recent annual reports. Studies of state and national conditions have been and are being made of medical education, law education, engineering education, state surveys of education in Vermont, and normal schools in Missouri. Reports on investigations of teacher-training courses.

4. **General Education Board**, 61 Broadway, New York, N.Y. (a) *Reports*. Four reports, the first for the years 1902-14, the second for 1914-15, the third for 1915-16, the fourth for 1916-17 (in preparation). (b) *Special studies in education*. Four special reports, three of which are in preparation. (c) *Occasional papers*. Seven short papers of a philosophic nature.

II. STATE DEPARTMENTS OF EDUCATION WHICH ISSUE MONOGRAPHIC MATERIAL IN EDUCATION

1. **New Hampshire** (Concord): Bureau of Research. Bulletins issued on educational measurement. One available by H. A. Brown on reading. Others in press on Latin, one on typewriting, and one on the languages.
2. **New Jersey** (Trenton): Address Commissioner C. N. Kendall. Monographs on the teaching of various subjects.
3. **Massachusetts** (Boston): Commissioner Payson Smith.
4. **New York** (Albany): Commissioner J. H. Finley, Deputy Commissioner. Thomas E. Finegan. Bulletins on various phases of school practice. Address Hiram C. Case for excellent material on school costs and school accounting. Accounting forms which would be helpful to superintendents of schools in small as well as in large cities published by C. F. Williams & Son, Albany, N.Y.
5. **Wisconsin** (Madison): Superintendent C. P. Cary; Dr. W. W. Theisen, director of educational measurements. Bulletins issued monthly, *Educational News Bulletin*.

III. BULLETINS ON EDUCATION ISSUED BY STATE UNIVERSITIES

1. **Indiana** (Bloomington): Annual bulletin on educational measurement (50 cents). Bureau of Co-operative Research.
2. **Illinois** (Urbana): (1) Bulletins issued by School of Education (address director of school); (2) annual proceedings of University of Illinois High School Conference now contain good material. H. A. Hollister, high-school visitor.
3. **Kansas** (Lawrence): Dean F. H. Kelly.
4. **Texas** (Austin): University bulletins issued by Extension Division. Some administrative and pedagogical material. Mailing lists.
5. **Wisconsin** (Madison): Series of high-school manuals and other bulletins.

IV. DEPARTMENTS OF EDUCATIONAL RESEARCH IN CITY SCHOOL SYSTEMS

Baltimore, Md.	Edwin Hebben	714 Euclid Ave., Roland Park Branch P.O., Baltimore, Md.
City	Director	Address
Boston, Mass.	{ Frank W. Ballou } A. W. Kallom }	14 Mason St., Boston, Mass.

Bulletins distributed by secretary of School Committee in response to request, 7 cents each. Twelve bulletins published covering the design and use of standard tests in arithmetic, spelling, geography, English, penmanship, reading; also reports on school administration.

Buffalo, N.Y.	William A. Mackey	Department of Public Instruction, 1401 N.Y. Telephone Bldg., Buffalo, N.Y.
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City	Director	Address
Chicago	Samuel B. Allison	Office, Superintendent of Schools, Chicago, Ill.
Department just organized—no material available.		
Cleveland, Ohio	C. W. Sutton	Office, Superintendent of Schools, Cleveland, Ohio
Planning to publish bulletins; conducts courses in educational measurements at city training school.		
Columbus, Ohio	.....	Office, Superintendent of Schools, Columbus, Ohio
Detroit, Mich.	S. A. Curtis	82 Eliot St., Detroit, Mich.
Write S. A. Curtis for 1917-18 announcement of standard tests and bulletins handled by "Bureau of Co-operative Research."		
Hibbing, Minn.	Wylie W. Richardson	Board of Education, Hibbing, Minn.
Kansas City, Mo.	George Melcher	Library Bldg., Kansas City, Mo.
Bulletins available on the use of standard tests in various subjects.		
Los Angeles, Cal.	Robert H. Lane	Office, Superintendent of Schools, Los Angeles, Cal.
Division of research organized May, 1917. Will publish first yearbook June, 1918. Have issued two bulletins on standard tests.		
Louisville, Ky.	Henrietta V. Race	Board of Education, Louisville, Ky.
New York, N.Y.	E. A. Nifenecker	500 Park Ave., New York, N.Y.
Fifteen bulletins published 1914-17. Prices vary from 10 cents to 20 cents. List of publications on application.		
Oakland, Cal.	Virgil E. Dickson	Board of Education, Oakland, Cal.
Bulletins published intermittently; one on spelling and another on <i>Information Service as Developed in the Oakland Schools</i> .		
Omaha, Neb.	Homer W. Anderson	Omaha, Neb.
Rochester, N.Y.	J. P. O'Hern	Office, Superintendent of Schools, Rochester, N.Y.
Schenectady, N.Y.	H. L. Davenport	108 Union St., Schenectady, N.Y.
Publications included in superintendent's annual report. No bulletins issued.		
Topeka, Kan.	Ira J. Bright	620 Tyler St., Topeka, Kan.
Publication included in superintendent's annual report.		

V. BUREAUS OF RESEARCH IN UNIVERSITIES, NORMAL SCHOOLS, BOARDS OF EDUCATION, FOUNDATIONS, ETC.

Institution	Director	Address
Arkansas, University of.	J. R. Jewell	Fayetteville, Ark.
Cleveland Foundation.	Allen T. Burns	Cleveland, Ohio
General Education Board.	Abraham Flexner	61 Broadway, New York, N.Y.

Institution	Director	Address
Indiana University.	Vacant at present	Bloomington, Ind.
Annual spring conference on educational measurements. Proceedings published as annual report in spring of each year. Three or four such reports available. Price 50 cents each. 1914 report out of print.		
Iowa, University of.	E. J. Ashbaugh	Iowa City, Iowa
Annual conference on supervision held in December. No report published. Special bulletins published intermittently by Extension Division. Several already available on use of standard tests.		
Kansas, University of.	F. J. Kelly	Lawrence, Kan.
Will publish bulletins intermittently. None is yet available.		
Kansas State Normal School.	Walter S. Monroe	Emporia, Kan.
Publish annual reports in bulletin form and supplementary bulletins intermittently on educational measurements.		
Minnesota, University of.	M. E. Haggerty	Minneapolis, Minn.
Nebraska, University of.	Charles Fordyce	Lincoln, Neb.
New York State Department of Education.	William A. Averill	Albany, N.Y.
Oklahoma, University of.	W. W. Phelan	Norman, Okla.
One report published. Plan to publish bulletins.		
Russell Sage Foundation.	Leonard P. Ayres	New York, N.Y.
South Dakota, University of.	W. Franklin Jones	Vermilion, S.D.
No publications as yet.		
South Dakota Northern Normal and Industrial School.	Willis E. Johnson	Aberdeen, S.D.
<i>Bureau of Educational Research.</i> Bulletin 11, No. 3 the only one available. Plan to publish others.		
Wisconsin State Board of Education.	B. R. Buckingham	Madison, Wis.

VI. "EXPERIMENTAL SCHOOLS"

A list of 27 Experimental Schools and a complete list of references to such schools is given in Bulletin No. 3 of: THE BUREAU OF EDUCATIONAL EXPERIMENTS, 70 Fifth Ave., New York, N.Y. This bureau is made up of a group of experimenters in education, organized to support educational experimentation and to initiate new experiments; to collect and make available for public use information about the whole field of experiments in education, and to hasten introduction of newly acquired methods through actual teaching experiments. Five bulletins have been issued. Jean Lee Hunt, secretary, Department of Information.

VII. IMPORTANT MONOGRAPHIC SERIES AND YEARBOOKS WHICH REPORT THE MORE IMPORTANT QUANTITATIVE STUDIES IN EDUCATION

1. *Columbia University, Teachers College, Contributions to Education.* Series includes 82 volumes to date. Ten volumes on an average are published each year. Complete catalogue sent on request. Bureau of Publications, Teachers College, New York City. Bulletin issued *Catalog of Publications of Teachers College, Teachers College Bulletin, Eighth Series, No. 7, December 2, 1916.* A series of 82 monographs containing reports of quantitative studies on elimination, retardation,

school finance, costs, and buildings; the teaching staff; marking systems; scales and standard tests, etc. Most of the early quantitative studies in administration were in this series.

2. *University of Chicago Supplementary Educational Monographs*. Edited in conjunction with *School Review* and *Elementary School Journal*. Published by The University of Chicago Press. Price varies; \$5.00 per volume (postage 50 cents extra). First volume will contain approximately 1,000 pages. Published intermittently, probably six to ten monographs per year. Scientific studies on learning in the various subjects; the use of standard tests; also quantitative material on school administration.
3. *Educational Psychology Monographs*. Edited by Guy M. Whipple. Published separately at varying prices. Warwick & York, Lancaster, Pa. A list of more than thirty separate studies, chiefly in the field of educational psychology. Some material on mental tests and school administration.
4. *Harvard Bulletins in Education* (continuing Harvard-Newton bulletins). Harvard University Press, Cambridge, Mass. No. 5, September, 1917. No. 4 is first of new series devoted primarily to bibliographies on special fields and reports of scientific studies in the use of standard tests. Other administrative problems reported.
5. *Harvard Studies in Education*. Harvard University Press, Cambridge, Mass. Price varies with monograph. A few monographs already published, reporting investigations on the teaching staff and other problems in school administration.
6. *National Society for the Study of Education*. Yearbooks, sixteenth issued 1917. Public School Publishing Co., Bloomington, Ill. Over forty published. Price usually 75 cents and postage. List of titles, dates, and prices on paper-back cover of current copy. Sixteenth, Part I just issued. Ninety cents net. These yearbooks have in the past contained important studies on the certification of teachers, school supervision, industrial and agricultural education, school surveys, minimal essentials and measurement, rating of teachers, etc.
7. *School Efficiency Monographs*. World Book Co., Yonkers-on-Hudson, N.Y.; Chicago. Practical experiments and investigations in education published in this new series; e.g., Mahoney's *Standards in Education*, Reed's *Newsboy Service*, etc.

VIII. EDUCATIONAL JOURNALS WHICH REPORT QUANTITATIVE STUDIES

1. *American School Board Journal*. Bruce Publishing Co., 354 Milwaukee St., Milwaukee, Wis. W. C. Bruce, editor. \$2.00. Monthly. Vol. LV, No. 4, October, 1917 issue. Primarily a journal for superintendents and administrative officers; contains detailed material on school-board problems, school finance, school buildings; superintendency problems covered and many personal news notes on people active in the field; supervision of teachers, etc. No school board should be without it.
2. *Educational Administration and Supervision*. Warwick & York, Lancaster, Pa. (Managing editor: C. H. Johnson, deceased. \$2.50. Monthly. Vol. III. No. 7, September, 1917. Contains articles on administration, especially high-school administration, marking systems, grading and promotion, educational measurement, school inspection. Articles have been somewhat general. Only a small proportion contain quantitative material. Very little reference to school-board, school-finance, or school-building problems.

3. *Elementary School Journal*. The University of Chicago Press, Chicago, Ill. Edited by the Faculty of the School of Education, University of Chicago. C. H. Judd, chairman, Joint Editorial Committee. \$1.50. Monthly, except July and August. Vol. XVIII, No. 2, October, 1917. Current fundamental movements in education are discussed each month. School administrators and teachers are kept in touch with all educational literature issued each month. Articles on teaching methods, important reorganizations of grades and subject-matter, standard tests and measurement, courses of study for the grades, articles of general administrative appeal as well as many of interest to elementary-school teachers.
4. *Journal of Educational Psychology*. Warwick & York, Baltimore, Md. J. C. Bell, managing editor, 1032A Sterling Place, Brooklyn, N.Y. \$3.00 per year. Monthly, except July and August. Vol. VIII, No. 7, September, 1917. In the past has reported much quantitative material, but is devoted primarily to the field of laboratory and educational psychology. Articles appear at times on educational scales, standard tests, and other types of measurement of abilities or of school or teaching efficiency. Of more interest to the college teacher and student of educational psychology than to public-school people.
5. *School and Society*. Science Press. New York City, Substation 84. Lancaster, Pa., and Garrison, N.Y. J. McKeen Cattell, editor. \$3.00 per year. Weekly. Vol. VI, No. 147, October 20, 1917. A general magazine appealing primarily to college and university teachers. Articles are very generally reprints of addresses of a philosophic nature. Each issue contains one article on educational research and measurement. Students of the quantitative materials of education should keep in touch with these research articles. News notes relate primarily to the college field.
6. *School Review*. The University of Chicago Press, Chicago, Ill. Edited by the Faculty of the School of Education, University of Chicago. C. H. Judd, chairman, Joint Editorial Committee. \$1.50. Monthly, except July and August. Vol. XXV, No. 8, October, 1917. Essentially a high-school magazine. Contains articles of interest to the teacher of particular subjects. Much standardizing and measurement material; courses of study; discussions of reorganizations of secondary education (junior high-school discussions); methods of teaching specific subjects; discussions of educational news and comment on current events in the general field of education. Department of reviews attempts to acquaint the reader with all phases of educational literature appearing each month.

IX. IMPORTANT TEXTBOOK SERIES IN EDUCATION

1. *Riverside Textbooks in Education*. Houghton Mifflin Co., Boston. Edited by Ellwood P. Cubberley.

One of most important series now published; contains books on school administration, psychology of common branches, mental, laboratory, and educational tests, statistical methods, school health work, and the teaching of the various subjects.

2. *Macmillan Textbook Series*. Macmillan, New York, N.Y. Edited by Paul Monroe.

Primarily a series of books on the general principles, history, and philosophy of education; volumes on state and county school administration, on social education, on principles of teaching.

3. *Home and School Series*. Macmillan, New York, N.Y. Edited by Paul Monroe.
A new series of six volumes; three volumes by H. S. Curtis on *Play*; others on general principles of education.
4. *School Efficiency Series*. World Book Co., Yonkers-on-Hudson, N.Y. Edited by Paul H. Harnus.
A series of thirteen volumes comprising the reports of the New School Inquiry, covering in "survey" form the various fields of school practice; enlarged to include *Portland Survey* and other volumes.
5. *Educational Survey Series*. World Book Co., Yonkers-on-Hudson, N.Y.; Chicago.
Publication of various school surveys in permanent form.
6. *Riverside Monograph Series*. Houghton Mifflin Co., Boston. Edited by H. Suzzalo.
An important series of monographs written in non-technical language covering many aspects of education, especially the teaching of various subjects.

II. COMMENT ON CURRENT EDUCATIONAL WRITINGS

A. A CRITICAL REVIEW OF THREE NEW TEXTBOOKS ON HIGH-SCHOOL MATHEMATICS

In recent years the sociological emphasis in education has brought about three very distinct movements which effect the reorganization of the mathematics course of study. The first has revealed a distinct vocational demand for the modification of the subject-matter of mathematics and has shown three important aspects, the agricultural, the commercial, and the industrial. The second movement has revealed itself in an insistent demand for economy of time: first, economy of time in the minimal essentials of the subject-matter; and second, economy of time in teaching and learning. The third movement has called for the rearrangement of the subject-matter of mathematics in the intermediate grades, the results of the organization of the grades being called quite generally the junior high school.

In response to these demands three types of books have appeared in recent years, each claiming that it is an improvement on the old order of things because it responds to one of these demands. During the past five years several "agricultural mathematics" have appeared in which the essentials of arithmetic are applied specifically to the problems of the farm. In the same way a score of business arithmetics have appeared, applying that subject-matter to the commercial and trade activities. Finally, during the past six years a number of "shop" or "applied mathematics" books have appeared, each of which has attempted to apply arithmetic and the fundamentals of algebra and geometry to the specific situations which are met in particular industries and trades. This latter movement has assumed implicitly that boys leaving school in the ninth, tenth, and eleventh grades go into these trades. This, however, has not yet been established by quantitative investigation, and it is doubtful if it is true.

In all of this modification of the course of study there may be seen the gradual acquiescence of school teachers of mathematics in social pressure of a purely utilitarian sort. Three books¹ which have been issued within the past two months typify various aspects of these important movements of the modification of this traditional course of study in high-school mathematics.

The Keal and Phelps textbook is a distinct attempt of the school man to work out

the sequence of mathematics that would enable the student to recognize fundamental principles and apply them in shop, drawing-room, and laboratory, and second, to so develop the course that each year's work would be a unit and not depend upon subsequent development for the application of that work.

It should be pointed out that books that have applied mathematics to the later occupational needs of children have not been founded upon detailed investigation of these later occupational needs. The Keal and Phelps textbook is the first to be constructed. The review editor gives it as his judgment that it is the best compromise text that has yet appeared in the field of secondary mathematics, which places in the hands of the teacher a systematic presentation of fundamental quantitative devices, the latter having been compiled with definite reference to occupational needs. The book is a most radical innovation from the standpoint of the currently used algebras. The teacher of any one of the most popular first-year algebras at the present time will perhaps be shocked at the lack of conformance to traditional order in the presentation of topics, and to the very slight emphasis upon many of the so-called fundamentals of first-year algebra (for example, factoring). Among the strong points of the book we can note great emphasis upon concrete material (for example, graphic illustrations, "scales"), use of levers for the exhibition of positive and negative numbers, a rather good use of the protractor for angle measurement, and a heavy emphasis on graphic illustration of fundamental processes. There is a good treatment of ratio and a very desirable emphasis upon the important topic of evaluation.

The book, however, is an interesting exhibit of the one-sided point of view that school men are now taking in their construction of textbooks. With the present emphasis upon fitting the course of study to social needs the teacher has been even less inclined than before to equip himself adequately with psychological technique and to organize the subject-matter of his books in terms of a careful analysis of the psychology of learning in the subject in question. The Keal and Phelps book is organized about certain situations which

¹ H. M. Keal and Nancy S. Phelps, *Secondary Mathematics*, I. New York and Chicago: Atkinson Mentzer, 1917. Pp. 224.

W. L. Vosburgh and F. W. Gentleman, *Junior High-School Mathematics, First Course*. New York: Macmillan, 1917. Pp. vii+146.

E. R. Breslich, *Third-Year Mathematics for Secondary Schools*. With logarithmic and trigonometric tables and mathematical formulas. Chicago: The University of Chicago Press, 1917. Pp. xviii+331+tables, 125 pages.

are so highly specialized that certain chapters are almost "non-teachable" to the average student. It is extremely difficult to defend the detailed content of chapter vi on "pulleys, gears, and speeds." In the remainder of the book there is not revealed such an unusual emphasis upon specialized situations, but it is clear that from the standpoint of the psychology of "learning" the book must be said to be *traditional*. By this we mean that in it there has been very little consideration of the step-by-step process by which children *learn* to handle intelligently the fundamental devices for quantitative thinking, namely, the equation, the formula, and the graph. We find on page 1, for example, that the pupil is taught to represent numbers by letters *without* adequate introductory material. Through the chapter there is revealed in the organization of the problems this same lack of recognition of the need of systematic psychological study of the learning process and careful grading of the subject-matter. The other chapters, in the main, do not make adequate use of "graphic representation," the graph being taken up systematically in the last chapter of the book. Chapter ii on evaluation illustrates again the lack of "psychologizing." The student is given two pages of definitions and is then at once plunged into the "evaluation" of very difficult problems. In forming a judgment of this book we feel, therefore, that, whereas it has probably the best selection of *fundamental quantitative materials in first-year mathematics, it has, like all other mathematics books which are being published at the present time, failed decidedly from the standpoint of "learning."*

In this connection Mr. Breslich's book, although a third-year book, not comparable in content with the Keal and Phelps book, is a distinct attempt to psychologize from the broader standpoint the organization of subject-matter in mathematics. His three-volume series is the most striking example which has appeared in years of the movement for the combining of essentials of geometry with the essentials of algebra. The extent to which the author has recognized problems of learning is seen in his attempt to merge, to unite, to fuse, these important groups of mathematical subject-matter called algebra and geometry. In this connection the editor's reaction to the author's attempt is that it is an interesting beginning in a most difficult and important field of educational study. It must be pointed out in this connection that the author is primarily interested in the preparation of students for the college and the university. This *Third-Year Mathematics* is designed primarily as a third unit, as a year's work, to follow the first two unit courses of work of the author in *First-Year Mathematics* and *Second-Year Mathematics*. It completes the study of high-school mathematics with algebra, trigonometry, and solid geometry. Without doubt these series of books represent the most important single example of the movement for unified mathematics in this country.

During the past year several books appeared which are designed to satisfy the demand for a unified course in mathematical instruction in the seventh, eighth, and ninth years. We already have heard of many successful attempts to combine the essentials of algebra and geometry in the seventh and eighth grades.

To do this successfully we need systematic textbook material. The Vosburgh and Gentleman *Junior High-School Mathematics* is a rather successful, traditionally organized mathematics book of this type. Their "unit course" in mathematics includes first a brief review of the arithmetic ordinarily covered by the first six grades. The equation is made use of early as a simple mathematical tool. In this connection the use of ratio is introduced and used in simple mathematical development. Measurement and decimals are introduced, and measurement of angles is taken up by the use of a protractor as a decimalized ruler. The interpretation of number data is made by means of graphs. Equations are applied to the formulas of mensuration, and percentage, discount, and interest, in addition to these other items, are included in the first-year course. These authors do recognize the need for more careful grading of problem-work.

The detailed scheme of this book as well as of the preceding two reveals, however, that *the fundamental psychological weakness in mathematics textbooks centers around the poor grading of problems*. Problems should be carefully graded in types of *gradually increasing complexity and difficulty*. It is easy to point out in these books as well as in the currently used traditional books *important gaps in the graduation of problem-work*. The other psychological weakness revealed by these books is that the subject-matter is organized in such a way as to be too remote from the pupil's experience. It is too abstract.

We may sum up, then, by commending the writers of these books upon the improvement of the content of the subject-matter of first-year mathematics, upon the elimination of much dead wood in the mathematical curriculum, and upon the tendency to adapt mathematics more closely to social needs. *It is clearly evident that important advances are being made*. On the other hand, *from the standpoint of the psychological criterion*, analysis of textbooks in high-school mathematics shows that *little or no advance has been made up to the present time*. It seems to us that the best attempt made in this field is that of Mr. Breslich, but that his chief contribution is in leading the way in the reorganization of the subject-matter found in algebra, geometry, or trigonometry.

B. A BOOK ON STATISTICAL METHODS APPLIED TO EDUCATION

One of the "Riverside Textbooks in Education" is Mr. Rugg's new book *Statistical Methods Applied to Education*.¹ The subtitle of the book, *A Textbook for Students of Education in the Quantitative Study of School Problems*, indicates the field which the book is expected to cover. Many school administrators who have long since forgotten much of their mathematics and who, in consequence, have been somewhat worried over the introduction of the statistical method of dealing with school problems will feel a sense of relief when they read in the author's preface that "it is possible to explain rather

¹Houghton Mifflin Co., Boston and Chicago: 1917, \$2.00.

completely the reasons for and the significance of the principal statistical devices without expressing the explanation in technical mathematical language." This book has been written with the deep-rooted conviction that this course is the proper one, and with a complete recognition of the limitations in mathematical equipment of the average school administrator and teacher. One must feel that the author has undertaken a very necessary and important kind of work when he attempts to show how statistical work in education may be studied and used without specializing in mathematics. As a result of this attempt Mr. Rugg has produced a book of some four hundred pages, but, on carefully studying each chapter, one does not find an unnecessary sentence in the entire book.

The book is a result of actual classroom work by the author with seven of his graduate classes in education. The men in these classes were all practical school men, including not a few superintendents, and the book therefore represents in part their reactions to the author's methods of presentation.

The book is divided into ten chapters. It seems to fall naturally into four great divisions: first, introductory, in which Mr. Rugg sets forth the uses which may be made of statistical methods in education, indicates the best way of quoting educational facts and some of the pitfalls which should be avoided, and shows how to tabulate with accuracy and dispatch the educational data which have been gathered.

Secondly, he deals with the method of computing averages. He discusses thoroughly and in a very clear manner the distinction between the statistics of variables and of attributes, how to throw the data into frequency distributions, and the plotting of the frequency curve. Under the heading of "averages" he discusses the mode, median, and arithmetic mean. These three methods of averages, the author feels, are all that the most of school men will ever need, but he includes also a discussion of the harmonic mean and the geometric mean. One of the most valuable parts of the chapter on averages, which is indicative of the desire of the author to be of real service to his reader, is the discussion of the use of the "different measures of central tendency." One not only wants to know how to do a certain thing, but also desires to know how to use it after he has done it.

Thirdly, the book deals with the measures of variability, the use of the normal frequency curve in education, and the measurement of relationship. Here are discussed the four measures of variability: the range, the quartile deviation, the standard deviation, and the mean deviation.

Chapter vii is a discussion of the frequency curve. It is one of the few chapters with which those who are not mathematically inclined will have any difficulty. The discussion of permutations and combinations might be criticized upon the ground that it is too technical, unless one considers that the text is intended for the use, not only of school administrators, but also of specialists in research work. For the use of the latter such a chapter is absolutely essential.

The discussion of the "measurement of relationship" in chapter ix, which includes methods in the computation of the correlation and regression coefficients and probable error, may also present difficulties to the average school man, but one cannot very well see how the discussion could be clarified, nor how it could be left out of a book on statistical methods.

The fourth great division is chapter x, and is in many respects the best presentation of the "use of tabular and graphic methods in reporting school facts" which has yet been published. One must feel that in this chapter the author has succeeded to a remarkable degree in answering that vexing question, How is one to use his knowledge of statistical methods? There are many graphic methods presented for reporting school facts which should prove to be invaluable to a progressive school administrator. Plate I, entitled "A Tabular Survey of the Published Quantitative Studies on School Administration," is a successful graphic device for putting the reader in immediate touch with the literature of the different phases of school administration. Five in all are studied, such as standardization of the course of study, the teaching staff, school machinery, and the pupil; school finance and business management; school organization and administration. The use of the plate is fully explained in the text.

The bibliography is remarkably well chosen and annotated and covers a wide range of studies on school administration. The appendix is divided into three parts: Appendix A is a selective bibliography of statistical methods, which is probably the most practicable which has yet been published; Appendix B is an explanation of the formulae and symbols used in the text; Appendix C includes ten tables for facilitating computation. The author has used 80 diagrams and 68 tables to illustrate the various processes which he describes. These diagrams and tables are well chosen.

It is very evident that the text will appeal to practical school administrators for use in determining many important school facts about their own systems, will aid in interpreting reports on other school systems, and will give meaning to their professional reading. In these days, when educational books and magazines fairly bristle with such terms as "frequency curve," "probable error," "median," "coefficient of correlation," etc., the school man who does not understand what these terms mean soon finds himself very much at sea.

This book should also prove invaluable to the heads of departments of research. These departments are being created very rapidly in our large school systems, and the heads of the departments will find that this book will be to them what a classical dictionary is to a teacher of Latin.

The third group which will use this book with profit is composed of students in our departments of education. Every up-to-date department of education is requiring some work in statistical methods, and as yet there has been no textbook which has fully met this need. The book is so planned and written that it will be useful, not only as a reference book, but also as a textbook. At the close of each chapter there are illustrative problems which may be worked

by the students. These are adapted from the author's *Illustrative Problems in Educational Statistics*, which has been published to accompany this text.

Mr. Rugg's book is a real contribution to the science of education, and one ventures to prophesy that it will be found on the desk of every progressive school man in the country.

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III. BRIEF DESCRIPTIVE STATEMENTS OF NEW PUBLICATIONS

1. *Apprenticeship and Apprenticeship Education*. Colonial New England and New York. Seybolt. Cloth, 8vo, pp. 121. Teachers College Contributions to Education, No. 85, 1917.

Historical dissertation dealing with early trade education; describes rise of the apprenticeship system in England and its transplanting to the American colonies. Educational aspects of the practice of apprenticeship in New Plymouth and Massachusetts Bay colonies, Connecticut, New Haven, and Rhode Island colonies, and in New York province are indicated. Based upon legislation, court orders, indentures, wills, and other original sources; appendix contains a few transcripts of original documents; extensive bibliography of source material.

2. *Lancasterian System of Instruction in Schools of New York*. Reigart. Cloth, 8vo, pp. v+105. Teachers College Contributions to Education, No. 81, 1917.

An intensive study in the history of education, treating of part played by the monitorial plan in the development of New York City's public-school system from 1805 to 1853, describes origin and rise of Lancaster's plan and gives reason for introduction into New York, deals quite specifically with school organization and classification of pupils, and gives specimens of floor plans, curricula, and programs. Methods of teaching reading, arithmetic, science, manual training, and religious and moral education are indicated. School inspection, teacher-training, and the good and evil effects of the system are discussed. Good bibliography and analytical table of contents.

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